INEOS OXIDE

SHE requirements for contractual hauliers

Revision 2024-09-26

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2. SCOPE

SHE requirements for loading at INEOS Oxide are compiled in 2 documents:

1. The INEOS Oxide haulier SHE policy:
   This document outlines the minimum safety, health and environmental requirements for accessing our loading sites. This document is applicable to all incoming hauliers, irrespective of product or contract type.
2. The INEOS Oxide SHE requirements for contractual hauliers:
   This document describes the additional SHE requirements for contractual hauliers. The document must be read and respected in conjunction with the INEOS Oxide haulier SHE policy.

The party described as "company" refers to INEOS Oxide in this document. The party described as "customer" refers to the company's client whereto the cargo is to be shipped. The party described as "supplier" refers to the contracted haulier.

Supplier will have to respect the "INEOS Oxide SHE requirements for contractual hauliers" and the "INEOS Oxide haulier SHE policy" as contract requirement with company to ship product or goods to customer.

Applicable national or international regulations take precedence over this requirements and any the delivery instructions.

Commercial and operational requirements can be found in the commercial and operational specs.

3. INEOS LIFE SAVING RULES & BANS

All parties need to follow the INEOS Group Life Saving Rules as described in the INEOS Oxide Haulier SHE policy. Specific consequences on driver bans and corresponding penalties are described in the Commercial & Operational Specs.

4. CEFIC BASED SAFETY REQUIREMENTS

INEOS Oxide requires contractual hauliers to apply the CEFIC/ECTA/FECC guidelines on roles and responsibilities of the Transport Company as reported in "Best Practice Guidelines for Safe (Un)Loading of Road Freight Vehicles – issue 1, December 2013" in full, with some item specific amendments. See highlighted sections and company specific additions hereunder.

4.1 CEFIC based management responsibilities

4.1.1 Equipment

Supplier shall supply equipment that is fit for the operation to be carried out and meets all applicable legal requirements.

4.1.2 Competence

Supplier's management shall ensure that drivers are fit for duty and have passed successfully all necessary training to fulfil the legislative requirements and site requirements, in particular regarding the transportation and handling of dangerous goods.

4.1.3 Personal protective equipment

Supplier's management shall ensure that drivers are provided with proper and certified PPE. The minimum requirements, as stated in the INEOS Oxide haulier SHE policy, must be respected at all times. This includes operations at Customer premises. Specific additional PPE requirements are communicated via order booking.

4.1.4 Site instructions

Supplier shall communicate the received site requirements to all involved people. See INEOS Oxide haulier SHE policy.

4.1.5 Working at height

Supplier shall comply with the 'Working at Height' guideline "ECTA/CEFIC Best Practice Guidelines for the Safe working at Height in the Chemical Logistics Supply Chain" issued November 2012.

4.1.6 Product Quality

Company's preferred option for product acceptance at customer is on the basis of a Certificate of Analysis. If the customer insists on taking samples, then customer should ensure that samples are taken by qualified site personnel or by appointed surveyors with adequate safety precautions.

4.1.7 Filling Degree

The application of ADR paragraph 4.3.2.2.4 shall also be applied for the carriage of non-dangerous goods. ADR 4.3.2.2.4 : "Shells intended for the carriage of substances in the liquid state (…) which are not divided by partitions or surge plates into sections of not more than 7500 litres capacity, shall be filled to not less than 80% or not more than 20% of their capacity."

INEOS will not load above 95% for operational reasons. Hauliers must include a 300 kg safety margin to all loadings limits when selecting equipment.

4.1.8 Non Standard Operations

The standard method of discharging a chemical bulk road tanker or tank container is via fixed piping, of an appropriately designed unloading facility, into a bulk liquid storage tank.

Unloading into more than one storage tank or incomplete unloading require specific approval of Company prior to the start of the operation.

Discharging Road tankers directly into drums or IBC's is potentially a risk operation, and can only be allowed if using a safe and appropriately designed drumming facility or approved protocol. This operation requires specific approval of Company. Driver is not allowed to assist during drumming operations. Direct filling only via a flexible hose into drums/IBC's at customers premises is never allowed.

4.1.9 Entry into confined spaces – risk of toxic / inert gas:

Confined spaces are potentially dangerous due to the presence of substances and/or lack of oxygen. Poor natural ventilation in these areas allows the build-up of high concentrations of substances which are not usually found in breathable air. Therefore NO ONE shall be allowed to enter a tank/container.

4.1.10 Near Miss and Incident reporting

Supplier's management shall ensure there is a procedure to report all near misses, incidents, (un)loading problems and unsafe situations or conditions, including follow-up. There shall be a system in place to share information on near misses, incidents or unsafe situations.

4.2 CEFIC based operational responsibilities

4.2.1 Transport equipment

At all times drivers shall ensure that the vehicle and all ancillary equipment are fit for the operation to be carried out and meet all requirements as specified in driver's instructions for the operation. Pre departure checklist is mandatory.

4.2.2 Site instructions

Unless specifically agreed otherwise, drivers shall always report at the gate or site entrance and ask for instructions. These instructions may include emergency procedures, required PPE, parking restrictions, route to loading or unloading point and general info such as the prohibition of smoking, alcohol and drugs, prohibition on the use of mobile phones, driving speed limits, etc. Drivers shall always adhere to the site instructions.

Drivers shall witness the whole (un)loading activity and provide assistance if required by the (un)loading crew. See INEOS Oxide hauliers SHE policy for specific instruction when at an INEOS site.

4.2.3 On-site driving and parking

Drivers shall proceed to the (un)loading area and park the vehicle according to site instructions. It is important to constantly assess the safety situation, not only whilst driving on site but also when arriving at the (un)loading point. For manoeuvring, driver shall ask for assistance if needed. Drivers shall always take the necessary precautions to prevent any movement of the vehicle during (un)loading.

4.2.4 Personal protective equipment

The driver shall possess and wear all of the PPE (personal protective equipment) imposed by the company and site where he/she is working, loading or offloading. The driver shall ensure that he/she knows and understands all the relevant PPE standards.

In all cases the driver shall proactively find out the relevant site PPE requirements and ensure compliance. Availability and condition of the required personal protective clothing may be checked prior to loading. (Un)loading may be refused if protective clothing is found unsatisfactory or in an unsatisfactory condition.

4.2.5 Emergency preparedness

Prior to the start of the operation, drivers shall check the location of the site safety equipment, e.g. fire extinguishers, eyewash, safety shower, first aid equipment, emergency escape routes, emergency alarm activation, emergency stop, decontamination equipment and absorbent materials. In case of any doubt driver shall ask the operator for clarifications.

4.2.6 Documentation, Marking, Labelling and Sealing

Driver shall hand over all relevant documents to the operator. Documents may include: weighing ticket, delivery note, certificate of analysis, cleaning document and transport document, if necessary with the required dangerous goods information.

Driver shall ensure that arrival/departure times, temperature, pressure, volume and weights, as applicable, are noted and that signature(s) are obtained on all copies of the transport document. Customs and other documentation shall be completed as per job instructions.

Any deviations noted at the (un)loading point shall be communicated by the driver to the site and be written on the transport documents before departure.

Driver shall apply and/or check application of markings and placards. Driver shall apply and/or check application of seals when required. Driver shall note and/or check seal numbers on transport documents.

4.2.7 Product samples

Drivers shall ensure that company sample is stored in a safe way and handed over at the delivery point. Storing of samples in driver's cabin is forbidden. Packaging and labelling of the sample shall be in accordance with legal requirements.

4.2.8 Working at Height

Driver shall follow site instructions when working at heights.

See also "ECTA/CEFIC Best Practice Guidelines for the Safe working at Height in the Chemical Logistics Supply Chain" issued November 2012.

See INEOS Oxide haulier SHE policy on Life Saving Rules section about working at height.

4.2.9 Tank capacity and earthing

Before loading, driver shall check with the operator if the transport tank or tank compartment can accommodate the quantity to be transferred. In all cases driver shall ensure the equipment is earthed.

4.2.10 Equipment under pressure

Driver shall always ensure that the transport tank and/or equipment is not under pressure before making or breaking any connections and communicate with the operator. Before leaving the site after (un)loading, the driver shall seek permission from the operator to depressurize the tank, unless otherwise required.

No manipulations on couplings (also not tightening) shall take place during (un)loading operations. For tightening leaking valves the operations shall be stopped first.

4.2.11 Loading of liquids in multicompartment tanks

Driver shall ensure that in filling the tanks, the regulations concerning the separation of dangerous goods in adjoining compartments are complied with. The driver shall ensure that the operator is loading according the driver's instructions.

4.2.12 Unloading equipment

The driver shall check if the equipment owned by the transport company, e.g. product hose, vapour return or nitrogen/air pressure line, couplings, gaskets, and seals are in good condition, fit for purpose and product and pressure resistant.

The driver shall carry out a visual check on the internal cleanliness.

4.2.13 Tank connections

The driver shall be familiar with the equipment of the vehicle, e.g. (un)loading valves, pressure/vapour return connections, number and capacity of compartments, hoses, couplings and gauges.

The driver is responsible for making the connections to the vehicle, whilst the operator is responsible for making the connections to the storage tank, unless site procedures stipulate otherwise. When making or breaking connections, coordination and cooperation between the driver and operator is of vital importance to avoid incidents.

4.2.14 Permission to (un)load

The driver is only allowed to operate equipment on the vehicle such as valves, compressor and pump after explicit approval of the operator. The driver shall not operate site equipment. For driver controlled (un)loading explicit agreement between Supplier and site, including training requirements, is necessary to allow drivers to operate site equipment.

4.2.15 Vehicle restrictions

Maximum permissible vehicle gross weights must not exceeded. Maximum permissible axle weights must not be exceeded. Hauliers must select equipment with a minimum safety margin of 300kg.

4.2.16 Disconnection

Before departure the driver shall ensure that the entire load has been discharged, that all hoses are disconnected, drained, blanked off (if necessary) and properly stored. All manlids and valves shall be closed and properly tightened. The earthing cable as well as any loose equipment shall be cleared away. The driver shall ensure that it is safe to leave the (un)loading point by undertaking a visual inspection whilst walking around the vehicle.

4.2.17 Reporting of unsafe situations, near misses and incidents

Drivers shall report all (un)loading problems, unsafe situations or conditions, near misses and incidents. Supplier communicates directly to Customer Service Representative of Company.

5. HAZARD CLASSIFICATION OF PRODUCTS

Company's products and product groups to be carried are listed under **Error! Reference source not found.**.

Products not listed under **Error! Reference source not found.** should under no circumstance be considered harmless. Before carrying such products, Supplier should always refer to Company for details on the hazard classification.

Full details on the hazard classifications (IMO, IMDG, ADR, ADN, RID) as well as a brief description of the danger characteristics and physical properties can be obtained via internet access to Company's extended Safety Data Sheet database. For this purpose, a password to access the database will be given to a set of contact persons defined by Supplier.

When a transport booking is accepted, it is assumed that Supplier is aware of the product characteristics and hazard classification and does not need any further product information from Company.

6. SAFETY INCIDENTS

6.1 Complaints

Any complaints reported by Company require a root cause investigation by Supplier.

Any complaints reported by Company, triggered by incidents or accidents related to life saving rule breaches, unsafe operations, not wearing the appropriate PPEs require a root cause investigation and its reactive measurements which will be reported by the Company within 48 hours of receipt of the complaint.

6.2 Distribution Emergencies & Emergency Procedures

Whenever a vehicle is involved in an incident/accident, the driver will immediately contact the emergency centre as mentioned on the CMR. Tel: +32 14 58 45 45. Company, as owner of the product, has a primary interest in ensuring risks arising from a distribution emergency are minimized. Therefore Company has an Emergency Controller (24/24 – 7/7) available for technical assistance. Company must be informed upfront any cargo transfer as part of incident handling.

The prime responsibility for dealing with a transport emergency rests with the public emergency services.

The driver must be in possession of written emergency procedures issued by the Supplier.

This procedure must be known/adhered to by all drivers. This procedure shall at least mention:

- Person(s) to be notified.
- Personal protective measures (protective clothing)
- First aid actions to be undertaken by the driver (stop leakage, extinct small fire,...)
- How to transfer cargo (incl. instruction to upfront inform Company)
- List of contacts (including telephone number emergency centre). This list will be communicated to Company.

Supplier shall, within the area of his activities, and within 3 hours of any accident/incident have available on the site of such accident/incident:

- A representative of the company who is trained and experienced in the handling of chemical products as well as emergency transfer procedures.
- Equipment to contain, transfer or carry the cargo. I.e. second vehicle, suitable tankcar or tank container, container, salvage equipment, sufficient hoses, ex-proof pump, (hose-) couplings.

If the Supplier has insufficient means in a specific area or specific periods of the year of his operations, he should have formal agreements with other transport companies in order to assist him in case of any accident/incident. Supplier shall assure that the assisting company complies with the requirements as set out above.

Supplier completes the list provided by the Company regarding emergency equipment and the 24/7 emergency telephone number in **Error! Reference source not found.**.

6.3 Special circumstances / incidents during loading

The Supplier will report all special or unusual circumstances/situations or incidents occurring during loading. Company requires the Supplier to issue a written report.

6.4 OSHA Recordables

OSHA recordable incidents and/or accidents, due to unsafe driver behaviour, will be penalised equal to INEOS Life Saving Rule breaches as specified in the Operational & Commercial specs. This applies to incidents and/or accidents on the premises of the company, the premises of the customers and during transport from company to customer.

7. QUALITY & SAFETY AUDITS

Supplier shall possess a valid ISO 9001 certificate for the transport services rendered.

Supplier shall be SQAS assessed for the transport services rendered. See more details in INEOS Oxide haulier SHE policy.

Vehicles and drivers may be subject to safety and quality checks on a random basis.

8. SUBCONTRACTING

General rules on subcontracting are included in the INEOS Oxide haulier SHE policy. For contractual hauliers it is allowed to subcontract up to a maximum of 10 subcontractors. If more subcontractors are needed the Supplier shall document the reasons to the Business SHE department.

Transports or part of transports can only be subcontracted in full to subcontractors approved by Company. Supplier therefore shall obtain, prior to any first transport with a new subcontractor, the written agreement from Company. Email: transport.safety.oxide@INEOS.com

Subcontractors can be banned by customers (e.g. following past incidents), this will then be communicated through the delivery instructions.

When subcontracting transport, Supplier remains fully accountable for the execution of the transport in accordance with Company's and its customer's requirements

9. SUSTAINABILITY POLICY – CO_2 EMISSIONS

Supplier will calculate and log CO_2 emissions. Preferred calculation method is the activity based approach according to Cefic Guidelines for Measuring and Managing CO_2 Emission from Freight Transport Operations issued March 2011.

10. TYRE SAFETY MANAGEMENT

Company's Tyre safety Management policy can be found in 'INEOS Oxide Haulier SHE policy'.

Supplier should provide the completed form in 0 before start of the contract.

11. IN TRANSIT CONTROL

11.1 Routings

The driver should follow motorways and main roads to reach the delivery address. Densely populated areas should be avoided whenever possible. For EO & PO, we refer to 13.1.2 and 13.2.2.

11.2 Follow up

At all times, the Supplier shall be aware of the precise location of the vehicle.

11.3 Transfer of cargo

Transfer of Company products into another vehicle or transportation means is only allowed after prior and formal approval of Company's Emergency Controller, and might involve supervision of Company's representative. Supplier is expected to present an action plan to INEOS Emergency Controller for approval.

For EO/PO and MPG USP, it is not allowed to transfer Company products into another vehicle or transportation means. Should for urgent reasons transfer of cargo be required, then the Supplier shall obtain agreement from Company distribution and product transfer shall only take place under supervision of an INEOS representative.

11.4 Parking during transport

If the vehicle is to be parked at night whilst still loaded with Product, following shall be adhered to:

- Parking preferably within the guarded depot of Supplier
- Official ADR parking
- Only if above not possible, on a safe place on a public road, away from civil area

For any specifics on EO, we refer 13.1.9.

12. BULK GOODS – ALL PRODUCTS & DESTINATIONS

12.1 Technical Requirements for tanks

The road tank cars and tank containers used to carry Company's products, must be designed, constructed and equipped according to national and international rules and regulations as published by authorities (technical inspections and approvals, ADR, IMDG, IMO etc.).

The supplier will assure that all vehicles and equipment proposed for use with regards to this contract is fit for purpose, compatible with the cargo and perfectly maintained.

Only road tank cars and tank containers with tanks made of stainless steel are accepted to load and carry Company's products.

12.2 Previous cargo restrictions & Cleaning

12.2.1 Cleaning - Approved Cleaning stations

When a tank container is presented for loading, the driver has to provide the original cleaning certificate from an approved cleaning station, to the gatehouse/dispatcher/loading operator, as appropriate for the loading site.

The cleaning certificate is to specify "the tank is DRY/ODOURLESS/CLEAN", and has to carry the official stamp of the cleaning station with a valid "Signature + name" of the responsible cleaner.

To ensure no remaining contamination is found in the bottom valve an endoscopic control is mandatory and this should be mentioned on the cleaning certificate. For multicompartment tanks all compartments must be cleaned regardless whether all compartments will be loaded.

Supplier shall comply with any special cleaning requirements (Kosher cleaning, biological cleaning,…), any previous cargo requirements (e.g. blacklisted products) and any cleaning or previous cargo related documentation, as imposed by Customers and communicated through the delivery instructions of the transport booking.

List of approved cleaning stations can be found annex 16.2.

INEOS SHE business team should be contacted at transport.safety.oxide@ineos.com to add cleaning stations to the list of approved station. Cleaning stations should have min. 80 % SQAS score. Company reserves the right to audit the cleaning station prior to approval. See Annex 16.1

12.2.2 Product blacklist

Company does not stipulate a black list, i.e. list of specific products forbidden as previous cargo, with exception of Acrylate based polymers, Lubrizol LZ7418A , Latex based polymer and any kind of polymer emulsions and/or dispersions which are not allowed as one of last three cargoes.

For some products there are previous cargo restrictions. We refer to the INEOS Oxide Operational Bulk specification for any details on this.

12.3 Post loading

12.3.1 Hazard warning labelling

The driver is responsible for ensuring the hazard labels/plates required are in place before the vehicle leaves the loading terminal, and to remove all non-applicable labels.

12.3.2 Sealing

All equipment (manlid, airlines, valves, sample valves, spillbox) must be sealed. If equipment is protected by a box, it is sufficient to seal the box. HSS seals must be used for short sea, export and EO/PO.

12.4 Delivery at the customer

12.4.1 General

It is the responsibility of the driver to ensure the safety of the vehicle during the unloading operation and take all the required measures to preserve/protect the quality of the product.

This includes but is not limited to the following activities:

- Manipulation of valves, manlid etc. aboard the vehicle
- Connecting the product hoses and vapour return hoses to the road tank car / tank container
- Manipulation of the unloading pump or compressor of the vehicle if this is used for unloading
- Closing of valves, manlid, flanges etc. after completion of the unloading operation
- The driver shall empty unloading lines and hoses as prescribed by the customer. The driver shall not enter the public roads with open manlid or valves (for whatever reason) but close these immediately after the unloading operation has finished and before leaving the customer's premises.

Partial unloading is only allowed when approved by Company Business SHE department.

12.4.2 Special circumstances / incidents during unloading

The driver should report, via the Supplier's office, all special or unusual circumstances/situations or incidents occurring during unloading. Company expects the Supplier to issue a written report.

12.4.3 Driver first delivery checklist

Company wants to ensure a safe unloading of its products and avoid dangerous situations for people, environment, equipment, products and organizations.

At every first delivery at an unloading site performed under this Agreement, or after an update request by Company, Supplier shall complete a Driver First Delivery Check List. English version of the Driver First Delivery Check List is included in Annex 0. Check list versions in other languages are available on request.

All the completed DFDC must be provided to the Business SHE department (mail to: transport.safety.oxide@INEOS.com).

13. BULK GOODS – DEDICATED PRODUCTS

13.1 Ethylene oxide (EO)

13.1.1 Technical requirements for Tank Containers

13.1.1.1 Scope

Road tankers and containers for the carriage of ethylene oxide shall meet for this specific product the International Regulations concerning the carriage of Dangerous Goods by Road (ADR) and, when applicable, the International Maritime Dangerous goods code (IMO regulations).

The requirements that follow, give supplementary information and do not replace ADR or IMO requirements. They apply for all Road tankers and containers.

All Road tankers and containers will be dedicated equipment. Yearly a consolidated list must be provided to transport.safety.oxide@ineos.com containing the following information

- Container number
- Revision date 2.5 y and 5y
- GPS tracking unit number & battery use

Any change must immediately reported to transport.safety.oxide@ineos.com

13.1.1.2 Materials of construction

For new road tankers or containers the tank shall be constructed of :

- Stainless steel meeting at least the following specification: AISI/SAE 304LN or the according equivalent for the approved Pressure Vessel Code
- DUPLEX 1.4162/1.4462 is equally acceptable.

All materials shall be furnished with a minimum 3.1B certificate according to DIN 50049.

Tank fittings and attachments in contact with ethylene oxide shall also be of the above-mentioned materials, and may not contain copper or alloys of copper and/or magnesium.

13.1.1.3 Tank construction

The maximum width of the tank and its fittings should be such that it does not project beyond the overall width of the vehicle.

The tank of road tankers or containers is to be designed according to an approved Pressure Vessel Code (ASME BPVC, AD-Merkblätter).

The Inner side of the tank must be pickled and passivated.

Grinding is only allowed at the bottom part of the tank to allow for complete emptying of the road tanker or container. Maximum grinding width: 200 mm.

Requirements for all pressure retaining welds are:

- Shall be 100 % radiographed.
- All Welding Procedure Specifications (WPS) and Procedure Qualification Records (PQR) must be made available to INEOS for approval.
- All WPS and PQR must confirm with the approved Pressure Vessel Code.
- Ferrite numbers:
    - For each weld, a ferrite number must be given an shall be in the range of FN 4 – 10.

- A description of a number of FN-measurements during the welding is required.
- The ferrite number of the filler metal should be given.
- Each welding procedure qualification should list the ferrite number of the weld deposit.
- The method used for the measurement of the FN-number should be given by the manufacturer or by an official inspection organism.

Where baffle plates are fitted to reduce liquid surge, adequate venting and draining holes should be provided in the baffles. Baffle openings should not be less than 500mm diameter to permit access through the baffles for inspection purposes. These openings should be staggered in location along the tank. Baffle plates should be of the same material as the tank shell.

All load bearing attachments should have reinforcement (backing) plates of a material and thickness similar to the tank shell. Reinforcement (backing) plates should be fully welded to the tank shell, and should have all corners well rounded.

The geometry of the road tanker or container must guarantee a complete unloading of the road tanker or container (eg. by means of a slope towards the bottom centre.) Criterion: less than 5 L remaining product.

Nozzles on the shell should, as much as possible, be located away from the shell main weld seams.

For inspection purposes, the tank shall be fitted with at least one manhole not less than 500 mm diameter; the manhole shall be fully bolted and may have a hinged design (right hand side).

All gaskets (between flanges as well as the manhole) must be tanged graphite OR be round spiral wound stainless steel type 304, filled with pure graphite (99,9 %). Depending on the flange design inner- and/or outer guide rings are required. (e.g. gaskets for tongue and groove flanges don't have guide rings)

Valves shall have PTFE packing.

Tanks must be designed so that there are no pockets that can trap liquid during discharge.

The two screw threaded inlet points at each and of the tank, top centre (to permit the initial pressure test of the tank), shall be seal welded.

The only openings allowed in the tank are :

- One manhole
- Two footvalves
- Two threaded inlet points;

The welds at the outer side of the shell shall be pickled and passivated.

In order to protect welds for stress corrosion cracking, all stainless steel surfaces are to be coated according to INEOS specifications K-5-314 & K-6-417.

13.1.1.4 Equipment

Pressure relief devices:

Any pressure relief design must conform to ADR and IMO regulations.

If pressure relief valves are fitted, they shall be preceded by a bursting disc, which must be suitable for use under safety valves. The space between valve and disc shall be fitted with a pressure gauge for checking the integrity of the disc. Bursting discs shall have direct access to the vapour space of the tank. Pressure relief valves shall be of the spring loaded type. The discharge from pressure relief valves shall be so arranged that any escaping vapour cannot impinge directly on the tank shell.

Bursting discs and pressure relief valves shall be constructed of stainless steel.

Filling/discharge and vapour return fittings:

The tank must be fitted with an NB 80 mm filling/discharge pipe with an 80 mm shut off valve. The vapour return connections shall be a NB 50 mm pipe, fitted with a NB 50 mm shut off valve. Valves shall be of an approved make & type, e.g. Fort Vale…

In addition, a quick closing internal safety device shall be fitted in the tank shell for the liquid filling/discharge connection. The device shall be capable of being operated remotely. The device shall also close automatically in the event of a hose rupture or the inadvertent movement of the road tanker or container. The valve actuator shall consist of a hydraulic system.

Both the filling/discharge and vapour return connections must be equipped with a flanged TODO/dustcap combination with Chemraz 505 seals. If the TODO is removed both the filling/discharge and vapour return connections must be able to be closed with a blind flange. Materials of connections must be similar to that of the tank shell..

Connections should be adequately protected against possible impact that may occur during transport. This protection could be provided by means of a strong steel guard or by utilising the chassis of the vehicle. For tank containers, all connections should be contained within the BIN framework.

Both the liquid and vapour connections shall be clearly marked by a colour code (red/blue) and by their name (liquid/vapour).

To ensure that the foot valves/internal safety devices remain closed should either of the connection pipes be damaged, the design should be such that if the pipes are subjected to excessive strain, the tank shell remains undamaged.

Connection pipes, flanges and valves shall be suitable for the same test pressure as the tank shell.

These connections should be provided with means to prevent unauthorised access.

Internal vapour return line:

The tank pipe shall be fitted with a NB 50 mm internal vapour return pipe which shall extend form the foot valve/internal safety device to the vapour space. The pipe shall be designed to restrict liquid entry and shall be supported so as to withstand any vibration during movement of the vehicle.

Overall layout drawings and detailed drawings for loading & unloading equipment shall be provided to INEOS for approval.

Overall layout drawings and detailed drawings for loading & unloading equipment shall be provided to INEOS for approval

Earthing connection:

Earthing connections shall be provided to prevent dangerous differences in electrical potential arising between the carrying tank, the body of the vehicle, the piping and the ground during the filling or discharging of the vehicle. Connections should be provided at each end of the tank and also adjacent to the discharge connections.

Insultation:
Road tankers or containers are to be insulated to provide a minimum of one hour's protection of the tanks and their content in the event that the tanks are engulfed in fire.

The insulating material shall:

- Demonstrate no reactivity when in contact with ethylene oxide.
- Be suitable for cold service; to be suitable for operating at the lowest ambient temperatures likely to be met in service.
- Be chloride free (< 15 ppm leachable chlorides).

The whole tank including the unloading lines has to be insulated with the exception of the flanges and valves that are located on the loading/unloading lines.
All insulated flanges (e.g. manhole and bottom valve) shall have leak collectors preventing leaks to get into the main tank insulation. The insulation between the flange and the leak collector shall consist of Pittsburgh Corning T4 foamglass.
The insulating thickness shall be minimum 100 mm and is to be applied in 2 staggered layers.
The insulating material is to be covered by a stainless steel protection of minimum 0,8 mm thickness (weather barrier).

13.1.2 Monitoring pressure & temperature

Temperature and pressure measuring devices must be fitted. Surface temperature measurement of the tank bottom is recommended for new equipment. The pressure measuring device shall be installed in the vapour phase. Both devices shall be suitably protected.

Due to the classification as a High Consequence Dangerous Good, in order to monitor the position of the Tank container/Road tanker, it is recommendable to have in place GPS tracking to allow for proper tracking of the goods.

13.1.3 Routings

All routings to the customer will be assessed and approved by Business SHE department before first delivery. Mail to transport.safety.oxide@ineos.com

13.1.4 Driver training

Before a driver is allowed to convey Ethylene Oxide, he/she:

- Must have received product training to the standard required by the ADR agreement and
- Must have successfully (min 80%) participated in the 2-yearly specific training course for Ethylene Oxide (via interactive DVD or e-learning). Upon successful completion of training and validation by Business SHE, drivers shall be provided with a certificate and photo-badge valid for 2 years

13.1.5 Sealing

The appendage cabinet needs to be sealed with high security seals. No sealing of individual valves required.

Specific customer sealing requirements will be communicated through the transport booking.

13.1.6 Emergency response + training

All suppliers are obligated to set up an emergency response team with the proper equipment. The equipment is approved by the Business SHE team. An annual training will be held in Belgium, Italy, Spain and Germany. Business SHE department will be present during the training.

INEOS Oxide has an emergency response team (AIDE-team) available in case of emergencies.

More information see also 6.2.

13.1.7 Cleaning

All cleaning must be performed according to approved cleaning instructions of INEOS Oxide. And performed at GCA Moerdijk.

13.1.8 Load capacity / Filling degree

Maximum filling degree as used for EO at INEOS Oxide loading station is 0.78kg/l.

13.1.9 Parking

Only ADR parking approved by INEOS Oxide can be used.

13.2 Propylene Oxide (PO)

13.2.1 Technical requirements for Tank Containers

13.2.1.1 Scope

Road tankers and containers for the carriage of propylene oxide shall meet for this specific product the International Regulations concerning the carriage of Dangerous Goods by Road (ADR) and, when applicable, the International Maritime Dangerous goods code (IMO regulations).
The requirements that follow, give supplementary information and do not replace ADR or IMO requirements. They apply for all Road tankers and containers.

All Road tankers and containers will be dedicated equipment. Yearly a consolidated list must be provided to transport.safety.oxide@ineos.com containing the following information=

- Container number
- Revision date 2.5 y and 5y
- GPS tracking unit number & battery use

Any change must immediately reported to transport.safety.oxide@ineos.com

13.2.1.2 Material of construction

For new Road tankers or containers the tank shall be constructed of :

- Stainless steel meeting at least the following specification: AISI/SAE 304LN or the according equivalent for the approved Pressure Vessel Code
- DUPLEX 1.4162/1.4462 is equally acceptable.

All materials shall be furnished with a minimum 3.1B certificate according to DIN 50049

13.2.1.3 Tank construction

The maximum width of the tank and its fittings should be such that it does not project beyond the overall width of the vehicle.
Design pressure is 10 bar/MAWP: min 7 barg

The tank of Road tankers or containers is to be designed according to an approved Pressure Vessel Code (ASME BPVC, AD-Merkblätter).

The Inner side of the tank must be pickled and passivated.
Grinding is only allowed at the bottom part of the tank to allow for complete emptying of the road tanker or container. Maximum grinding width: 200 mm.

Requirements for all pressure retaining welds are:

- Shall be 100 % radiographed.
- All Welding Procedure Specifications (WPS) and Procedure Qualification Records (PQR) must be made available to INEOS for approval.
- All WPS and PQR must confirm with the approved Pressure Vessel Code.
- Ferrite numbers:
    - For each weld, a ferrite number must be given an shall be in the range of FN 4 – 10.
    - A description of a number of FN-measurements during the welding is required.
    - The ferrite number of the filler metal should be given.
    - Each welding procedure qualification should list the ferrite number of the weld deposit.
    - The method used for the measurement of the FN-number should be given by the manufacturer or by an official inspection organism.

Where baffle plates are fitted to reduce liquid surge, adequate venting and draining holes should be provided in the baffles. Baffle openings should not be less than 500mm diameter to permit access through the baffles for inspection purposes. These openings should be staggered in location along the tank. Baffle plates should be of the same material as the tank shell.

All load bearing attachments should have reinforcement (backing) plates of a material and thickness similar to the tank shell. Reinforcement (backing) plates should be fully welded to the tank shell, and should have all corners well rounded.

The geometry of the road tanker or container must guarantee a complete unloading of the road tanker or container (eg. by means of a slope towards the bottom centre.) Criterion: less than 5 L remaining product.

Nozzles on the shell should, as much as possible, be located away from the shell main weld seams.

For inspection purposes, the tank shall be fitted with at least one manhole not less than 500 mm diameter; the manhole shall be fully bolted and may have a hinged design (right hand side).

All gaskets (between flanges as well as the manhole) must be round spiral wound stainless steel type 304, filled with pure graphite (99,9 %) or tanged graphite.
Depending on the flange design inner- and/or outer guide rings are required. (e.g. gaskets for tongue and groove flanges don’t have guide rings)

Valves shall have PTFE packing.

Tanks must be designed so that there are no pockets that can trap liquid during discharge.

The two screw threaded inlet points at each and of the tank, top centre (to permit the initial pressure test of the tank), shall be seal welded.

The only openings allowed in the tank are :

- One manhole
- Two footvalves
- Two threaded inlet points;

The welds at the outer side of the shell shall be pickled and passivated.

13.2.1.4 Equipment

Pressure relief valves:
Any pressure relief design must conform to ADR and IMO regulations.
If pressure relief valves are fitted, they shall be preceded by a bursting disc, which must be suitable for use under safety valves. The space between valve and disc shall be fitted with a pressure gauge for checking the integrity of the disc.
Bursting discs shall have direct access to the vapour space of the tank. Pressure relief valves shall be of the spring loaded type. The discharge from pressure relief valves shall be so arranged that any escaping vapour cannot impinge directly on the tank shell.
Bursting discs and pressure relief valves shall be constructed of stainless steel.

Filling/Discharge and Vapour Return fittings:
The tank must be fitted with an NB 80 mm filling/discharge pipe with an 80 mm shut off valve. The vapour return connections shall be a NB 50 mm pipe, fitted with a NB 50 mm shut off valve. Valves shall be of an approved make & type, e.g. Fort Vale…

In addition, a quick closing internal safety device shall be fitted in the tank shell for the liquid filling/discharge connection. The device shall be capable of being operated remotely. The device shall also close automatically in the event of a hose rupture or the inadvertent movement of the road tanker or container. The valve actuator shall consist of a hydraulic system.

Both the filling/discharge and vapour return connections must be equipped with a flanged TODO (or Flexotech) with PO-selectivity slots/dustcap combination with Chemraz 505 seals. If the TODO (or Flexotech) is removed both the filling/discharge and vapour return connections must be able to be closed with a blind flange. Materials of connections must be similar to that of the tank shell.

Connections should be adequately protected against possible impact that may occur during transport. This protection could be provided by means of a strong steel guard or by utilising the chassis of the vehicle. For tank containers, all connections should be contained within the BIN framework.
Both the liquid and vapour connections shall be clearly marked by a colour code (red/blue) and by their name (liquid/vapour).

To ensure that the foot valves/internal safety devices remain closed should either of the connection pipes be damaged, the design should be such that if the pipes are subjected to excessive strain, the tank shell remains undamaged.

Connection pipes, flanges and valves shall be suitable for the same test pressure as the tank shell.

These connections should be provided with means to prevent unauthorised access.

Internal vapour return pipe:
The tank pipe shall be fitted with a NB 50 mm internal vapour return pipe which shall extend form the foot valve/internal safety device to the vapour space. The pipe shall be designed to restrict liquid entry and shall be supported so as to withstand any vibration during movement of the vehicle.

Earthing connection:
Earthing connections shall be provided to prevent dangerous differences in electrical potential arising between the carrying tank, the body of the vehicle, the piping and the ground during the filling or discharging of the vehicle. Connections should be provided at each end of the tank and also adjacent to the discharge connections.

Insulation:
Road tankers or containers are to be insulated to provide a minimum of one hour's protection of the tanks and their content in the event that the tanks are engulfed in fire.

The insulating material shall:

- Demonstrate no reactivity when in contact with propylene oxide.
- Be suitable for cold service; to be suitable for operating at the lowest ambient temperatures likely to be met in service.

The whole tank including the unloading lines has to be insulated with the exception of the flanges and valves that are located on the loading/unloading lines. The insulating thickness shall be minimum 100 mm and is to be applied in 2 staggered layers. The insulating material is to be covered by a stainless steel protection of minimum 0,6 mm thickness (weather barrier).

13.2.2 Monitoring pressure & temperature

Temperature and pressure measuring devices must be fitted. Surface temperature measurement of the tank bottom is recommended for new equipment. The pressure measuring device shall be installed in the vapour phase. Both devices shall be suitably protected.

In order to monitor the position of the Tank container/Road tanker, it is recommendable to have in place GPS tracking to allow for proper tracking of the goods.

13.2.3 Routings

All routings to the customer will be assessed and approved by Business SHE department before first delivery. Mail to transport.safety.oxide@ineos.com

13.2.4 Load capacity / Filling degree

Maximum filling degree as used for PO at INEOS loading station is 90%.

13.2.5 Sealing

The appendage cabinet needs to be sealed with high security seals. No sealing of individual valves required.

Specific customer sealing requirements will be communicated through the transport booking.

13.3 MPG USP

13.3.1 Technical requirements for road tank cars / Tank Containers

13.3.1.1 Scope

Road tankers and Tank containers for the carriage of Mono Propylene Glycol USP (MPG USP)shall meet for this specific product the International Regulations concerning the carriage of Dangerous Goods by Road (ADR) and, when applicable, the International Maritime Dangerous goods code (IMO regulations).

The requirements that follow, give supplementary information and do not replace ADR or IMO requirements. They apply for all Road tankers and tank containers.

13.3.1.2 Materials of construction

'MPG USP' is a hygroscopic product
ADR/IMO/RID product classification: N/A
Tankcode: L4BN/L4BH

To guarantee the 'MPG USP' quality, following minimum requirements are mandatory and the road tanker - container owner/operator must prove to INEOS Oxide that these requirements are met.
For new Road tankers or containers the tank shall be constructed of :

- Stainless steel meeting at least the following specification: AISI/SAE 304LN or the according equivalent for the approved Pressure Vessel Code .
- DUPLEX 1.4162/1.4462 is equally acceptable.

All materials shall be furnished with a minimum 3.1B certificate according to DIN 50049.
The tank must have ONE compartment.

13.3.1.3 Tank construction

The maximum width of the tank and its fittings should be such that it does not project beyond the overall width of the vehicle.
The tank of Road tankers or containers is to be designed according to an approved Pressure Vessel Code (ASME BPVC, AD-Merkblätter).
The Inner side of the tank must be pickled and passivated. Grinding is only allowed at the bottom part of the tank to allow for complete emptying of the road tanker or container. Maximum grinding width: 200 mm.
Where baffle plates are fitted to reduce liquid surge, adequate venting and draining holes should be provided in the baffles. Baffle openings should not be less than 500mm diameter to permit access through the baffles for inspection purposes. These openings should be staggered in location along the tank. Baffle plates should be of the same material as the tank shell.
All load bearing attachments should have reinforcement (backing) plates of a material and thickness similar to the tank shell. Reinforcement (backing) plates should be fully welded to the tank shell, and should have all corners well rounded.
The geometry of the road tanker or container must guarantee a complete unloading of the road tanker or container (eg. by means of a slope towards the bottom centre.) Criterion: less than 5 L remaining product.
Nozzles on the shell should, as much as possible, be located away from the shell main weld seams.
For inspection purposes, the tank shall be fitted with at least one manhole not less than 500 mm diameter; the manhole shall have a hinged design (right hand side).
Gaskets on flanges and for seals and O-rings in valves: PTFE or Viton (vapour space only). Other materials can only be accepted, after approval by INEOS Oxide
The gaskets used on the manholes on top of the container/road tanker should be of type PTFE envelope (prior approval by INEOS Oxide required).
Tanks must be designed so that there are no pockets that can trap liquid during discharge.
Tank insulation is not required

13.3.1.4 Equipment

Top connections:

- Manlid
- Diptube
- Liquid connection: 3" butterfly valve with 3" PN25 flange
- Gas connection: 1 1/2" BSP male screw connection with drip cap

- Thread particle filter : separation up to a size of 0.01µm and oil separation up to 0.001 mg/m³

Coupling	Volume flow (m³/h)	Max. allowed working pressure (bar)	Dimensions (mm)	
			Width	Height
1”	238	12	130	380

- Active carbon filter: oil separation up to 0.003 mg/m³

Coupling	Volume flow (m³/h)	Max. allowed working pressure (bar)	Dimensions (mm)			
			Width	Diameter	Height	Coupling height
1”	342	12	130	420	43	235

The thread filter is placed before the Active carbon filter and maximum allowed temperature for the filters is 40°C.

Bottom connections:

- Liquid connection: 3" TW coupling with cap
- Gas connection: 3/4" NPT male screw connection with drip cap

13.3.2 Driver training

Drivers should have a minimum training about some hygiene basics on MPG USP loadings. As a reference, a training procedure in place at the loading station in Dormagen, which also contains some points that are valid for drivers since they have to open the truck top and therefore run the risk of a contamination.

It is also required that the drivers are adequately trained to understand the hazards of the products they are required to carry and handle safely. They shall also be fully trained to deal with possible emergency situations.

13.3.3 Sealing

Loading and unloading valves and domes of transportation equipment, used for bulk transportation of MPG USP, must be sealed by Ineos operator after loading, using tamper-evident and numbered seals in order to ensure that impurities cannot be introduced either inadvertently or on purpose during transport.

Ineos is committing its customers to re-seal all opened valves and domes of the transport equipment immediately after unloading at the site, to record the seal numbers and sign and stamp the sealing document (see 16.7) to confirm the accurate sealing.

The driver has to present the sealing document upon arrival at the receiver’s site and verify if all fields of the document have been correctly filled in after discharge. Only the original signed and stamped hard copy of the sealing document that is fully completed will be accepted and should travel in the tube of the transport equipment in order to be presented at the loading site for the next loading.

In case the original sealing document gets lost in transit then the Supplier will bear the cleaning expenses.

13.3.4 Cleaning

Road tank cars and tank containers used in dedicated transport for MPG USP may not need to be cleaned before being reloaded, if all valves are immediately resealed after unloading at the offloading site and after return are proven to be undamaged.

If exceptional cleaning is required, cleaning procedure shall comply to the specific cleaning requirements as specified in the Guidelines for Handling and Distribution of Propylene Glycol USP/EP, as issued by the Propylene Oxide / Propylene Glycols CEFIC Sector Group.

If cleaning is needed for a dedicated MPG USP truck or container it must be according to food regulations EFTCO code F50, sealed and documented by the cleaning station.

13.3.5 Transport conditions

Temperature: ambient
Pressure: for safety and quality reasons ambient air is suitable

14. PACKED GOODS

There are not additional requirements in addition to the 'INEOS Oxide Haulier SHE Policy'.

15. DOCUMENT CONTROL

Owner: INEOS Oxide, Business SHE

Last update: 26/09/2024

Modifications:

- First edition by Jeroen Wesenbeek on 2023-07-06
- Addition technical requirements on 2023-08-09
- Adjustment in 12.2.2 Product blacklist on 2024-09-26

16. ANNEX

16.1 Tank cleaning approach and approval new cleaning stations

INEOS

Procedure tank cleaning approach and approval new cleaning stations.

Procedure on last cargo and cleaning for road transport.

To avoid the cumbersome discussions on the forbidden cargo list AND to create more flexibility towards the transport companies hence significantly reducing the exposure towards the excessive costs in order to present acceptable tanks INEOS elaborated a new set-up consisting of following steps:

- INEOS excludes acrylate polymers and derivates, Lubrizol LZ7418A and latex as previous loads in respect of experience these products cannot be cleaned properly to accepted Ineos Oxide products as next load.
- As mentioned in the Bulk Liquid contract some Ineos products have restriction for previous loads.
- INEOS agreed with supplier upon a consolidated list of approved cleaning stations.
- Haulier is responsible that each tank container/trailer offered for loading possesses a cleaning certificate of an approved cleaning station (see typical example in Annex 1):
  - mentioning that the tank is 'DRY/ODOURLESS/CLEAN'.
  - carrying the official stamp of the cleaning station
  - carrying the validated 'signature + name' of the responsible cleaner

Upon arrival at INEOS the Terminal Administration department will check the validity of the cleaning certificate based on the 'official stamp/signature + name'.

When the validity of the cleaning certificate is NOT OK and/or upon visual spot-check the tank is not meeting the required spec ('DRY/ODOURLESS/CLEAN') the concerned transport will be refused and the involved cleaning station will be removed from the list of approved cleaning stations.

"The EFTCO definition of 'clean' is as follows: "A tank shall be described as clean when there are no visible traces or odour of the last product or cleaning agent following an inspection from the man-lids."

INEOS

Procedure for adding new cleaning station

The following procedure must be followed to add a cleaning station to the consolidated list.

The transport company provides the following information to Business SHE department:

- Name and address of the cleaning station
- Name and contact details DGSA cleaning station
- SQAS cleaning with score of **minimum 80%**
- Cleaning procedure with 3 test certificates of the following products n-butyl acetate, epoxy resin and polyethylene glycol
- Example of the order sheet
- Confirmation that hoses are included in the cleaning procedure

Once all information is provided and reviewed, the consolidated list will be send out to all transport companies, INEOS loading stations and external loading stations. To give all parties involved time to implement the use of the cleaning station a waiting period of 7 days will be respected.

If the cleaning station is not assessed by SQAS or doesn't have a minimum of 80% an audit can be performed by INEOS to evaluate the cleaning station.

In case of a substandard performance/ customer complaint the cleaning station can be temporary removed from the consolidated list until a positive re-evaluation and/or audit is performed by INEOS.

Attached you will find following document:
Annex 1: Example of a cleaning certificate

Dhondt Evelyn
Dangerous Goods Safety Advisor
Ineos Europe AG Division Oxide

Revision date: 1 July 2022

16.2 List of approved cleaning stations (bulk)

Cleaning station	Address	ZIP code	City	Country
ADPO	Steenlandlaan 3 - Haven 1111	9130	Beveren-Kallo	BE
Alfred Talke	Max-Planck-strasse 20	50354	Hürth	DE
Bertschi (Antwerp)	Zomerweg 5	2030	Antwerpen	BE
Bertschi (Birrfeld)	Terminal Birrfeld	5242	Birr	CH
Bertschi (Köln)	Am Eifeltor 14	50997	Köln	DE
BOASSO Global	Kamerlingh Onnesweg 23	3316 GK	Dordrecht	NL
BOASSO Global Netherlands BV	Botlekweg 190 - Haven 4201	3197 KA	Botlek-Rotterdam	NL
BOASSO GLOBAL SPAIN S.A.	Carretera C-17 Km 17	08150	Parets del Valles (Barcelona)	ES
Bonifica Autocisterne	Via Borgoforte 30	29100	Piacenza	IT
Clean 13	Avenue Avogadro - ZAC des Cadestaux - BP 42	13340	Rognac	FR
Cotac Belgium	Transcontinentaalweg 10 - Haven 200	2030	Antwerpen	BE
Cotac Europe (Dormagen)	Alte Heerstrasse 2D	41540	Dormagen	DE
Cotac Europe (Mannheim)	Holländer Strasse 1-7D	68219	Mannheim	DE
Cotac France	Boulevard du midi 5	76107	Rouen Cedex	FR
cotac Nederland	Oude Maasweg 50 - Haven 4048	3197 KJ	Rotterdam	NL
COTALO GMBH	Duiburgerstrasse 6	41460	Neuss	DE
ETS CHARROT S.A.R.L.	La Culasse	13170	Les Pennes Mirabeau	FR
Europoort Tank cleaning	Moezelweg 181 - Haven 5610	3198 LS	Europoort Rotterdam	NL
Gentenaar Cleaning (GCA)	Middenweg 28	4782 PM	Moerdijk	NL
HTC Columbus NV	Scheldelaan - Kaai 373 - Industriedok	2030	Antwerpen	BE
HTC Seneffe	Chaussée de Nivelles	7170	Manage	BE
HTC Tankcleaning NV	Moerbroek 10	2270	Herenthout	BE
Isotank Depot Services Ltd (Hull)	Salvesen Way	HU3 4UQ	Hull	UK
Isotank Depot Services Ltd (Immingham)	Pelham Industrial Estate - Manby Road	DN40 2DW	Immingham	UK
Isotank Depot Services Ltd (Manchester)	Thompson Road Off Ashburton Road West, Trafford Park	M17 1SH	Manchester	UK
Isotank Depot Services Ltd (Middlesbrough)	Tilbury Road	TS6 6AW	South Bank, Middlesbrough	UK
Kläsener HG	Alfred-Zingler-Strasse 5	45881	Gelsenkirchen	DE
Kobler Tanker Cleaning	Im Vorderkehr 14-18	67112	Mutterstadt	DE
Köppen GmBH	Arnold-Dehnen-Strasse 20-24	47138	Duisburg	DE
Lavaderos Barcelona	Metallurgia 5	08908	Hospitalet-Barcelona	ES
Lavaderos De Cisternas (Lacisa)	Carrer de Simon Ferrer, 3	08039	Barcelona	ES
Lavaderos Europa	Poligono Industrial Ria-Clar p168-179	43080	Tarragona	ES
Lavaderos Europa	Po. Ind.Avda Conde de Llobregat, s/n - Ctra. N - II, Km. 586,65	08760	Martorell (Barcelona)	ES
Lavasud (GCA)	Quartier de l'aiguille - BP 13	13180	Gignac la Nerthe	FR
MAC² (ex-marcobel)	Blauwe weg 7 - Haven 261	2030	Antwerpen	BE
Mainport Tankcleaning BV.	Westgeulstraat 7	3197 LD	Rotterdam - Botlek	NL
Overmeer Tank Services BV	Stougjesdijk 149	3271 KB	Mijnsheernenland	NL
Parking Service Castellbisbal	Travessera de Can Estapé - Pol. Ind. Can Estapé	08755	Castellbisbal (Barcelona)	ES
Peter Hempt Gmbh & co. KG	Langgewann 56	67547	Worms	DE
Stolt Container Terminal Moerdijk B.V.	Middenweg 30	4782 PM	Moerdijk	NL
STR Tank-Container-Reinigung GmbH	Justus-von-Liebid-Strasse 29	01987	Schwarzheide	DE
SUDcontainer /Arnal	RN568; ZI de Ventillon	13270	Fos-Sur-Mer	FR
Tack (Truck & Tankcleaning - Oostrozebeke)	Ingelmunstersteenweg 58	8780	Oostrozebeke	BE
Tack (Truck & Tankcleaning - Zeebrugge)	Koggestraat 14	8380	Zeebrugge	BE
Tank Services Pernis	Propaanweg 27	3196 KH	Vondelingenplaat - Rotterdam	NL
Tankclean Hull	1203 Hedon Road	HU9 5LY	Hull	UK
Tankcleaning Venlo	Colombusweg 27	5928	Venlo	NL
TANKTERMINAL n.v. UNIDET n.v. (Gent)	J. Kennedylaan 30E	9042	Gent	BE
TANKTERMINAL n.v. UNIDET n.v. (Lokeren)	Dijkstraat 9	9100	Lokeren	BE
TANKTERMINAL n.v. UNIDET n.v. (Meer)	Amsterdamstraat 2	2321	Meer-Hoogstraten	BE
TANKWAGEN SERVICE ANTWERPEN (T.S.A.)	Hoeikensstraat 31	2830	Willebroek	BE
Technoport	Middenweg 53	4782 PM	Moerdijk	NL
Tradilo Inversiones	Poligoni Industrial de Constanti, Carrer d'Alemanya, 17	43120	Tarragona	ES
Transport Mervielde nv	Monumentstraat 13	9940	Ertvelde-Rieme	BE
TSA PORT	Romeynsweel 1A - Haven 200	2030	Antwerpen	BE
Van der Lee (Delft)	Haagweg 125	2612 CR	Delft	NL
Van der Lee (Herten-Roermond)	Schepersweg 5	6049 VC	Herten-Roermond	NL
Van Moer Cleaning & Repair	Schomhoeveweg 9 - Haven 200	2030	Antwerpen	BE
Van Moer Cleaning & Repair	Vitshoekstraat 11 - Haven 1054	2070	Zwijndrecht	BE

VIDAU	ZI Ecopolis 18 Aveneu José Nobre	13501	Martigues	FR
Wilhelm Ernst	Fösterkamp 3	21149	Hamburg	DE
XPO Logistics	Nab Lane Birstall	WF17 9NG	Batley, West Yorkshire	UK
XPO Sud (Ternay)	Avenue du Rhone	69360	Ternay	FR
XPO SUD (Vitrolles)	Impasse de Grèce - ZAC de l'Anjoly	13127	Vitrolles	FR

Revision 15 dd 4 July 2023

16.3 Driver First Delivery Check List

Driver first delivery check list

The purpose of this check list is to ensure a safe unloading of our products avoiding dangerous situations for people, environment, equipment, product and organization. This check must be completed by the driver for each delivery to a new unloading site or after an update request.

Please return this document to:
transport.safety.oxide@ineos.com

Haulier:
Product:
Delivery location/company/country:

Date:
INEOS Orderref:

	Yes	No	NA
1. Do you receive site safety instructions?	☐	☐	☐
General HSE rules and info displayed/communicated clearly at the entry?	☐	☐	☐
2. Was there a safe parking for your vehicle?	☐	☐	☐
3. Is a good positioning and adequate earthing possible at the unloading station?	☐	☐	☐
4. Were all documents and the unloading equipment checked before unloading?	☐	☐	☐
5. Did an operator show at which connection the product had to be unloaded?	☐	☐	☐
Is there a connection locking system in place?	☐	☐	☐
Are the connections clearly labeled?	☐	☐	☐
6. Was there an site operator during all the unloading operations?	☐	☐	☐
Is there an emergency shutdown button or alarm?	☐	☐	☐
Easy to find?	☐	☐	☐
7. Were the following emergency equipments available:	☐	☐	☐
Emergency showers?	☐	☐	☐
Eye wash showers?	☐	☐	☐
Fire extinguishers?	☐	☐	☐
8. Were you asked to take a sample before unloading?	☐	☐	☐
If yes, from top?	☐	☐	☐
From bottom?	☐	☐	☐
9. Safe working at heights?	☐	☐	☐
Was there a fall protection system?	☐	☐	☐
If yes, which one?	☐	☐	☐
10. Did you unload INEOS products in tanks?	☐	☐	☐
In another tank truck, flexitank?	☐	☐	☐
In drums or other packaging?	☐	☐	☐
11. When unloading heated products, do you find barriers to prevent people			
from entering the unloading place?	☐	☐	☐
Or other collective protective equipment?	☐	☐	☐
12. Was the procedure always clear (from arrival at the site until end of the discharge)?	☐	☐	

Remarks: (Did you notice any dangerous situation during the delivery?,…)

16.4 Sampling of trucks

INEOS
THE WORD FOR CHEMICALS

Subject: Sampling of trucks

In decreasing order of preference:

- Buy on CoA
- Get surveyor in to take sample taking into account the Working on Height regulations.
- Advice customer that IF he really wants a sample the bottom sample is the most critical/prevents the best any potential storage tank contamination. Possible sampling tool valid for all dangerous products (a bit of flushing required before sampling):

Advice customer it is HIS responsability to ensure the safety of hauliers/surveyors when taking samples (= Working on Height regulations).
A mobile stair for sampling could help in this case (there will be surely local analogue suppliers):

The supplier of these safety ladders is:
Haagh Protection BV at Rijen (Holland)
Tel 0031 161 22 6559
http://www.haagh-protection.com/

If none above accepted we can not allow the haulier to take samples on top of a truck.
Only options at that stage:

- FCA deliveries ('the ostrich' approach)
- Line sample on drain on the customers' installation (couple truck/open valves truck with valves to tank closed)
- Take sample at loading location/package it according to ADR-regs (eg via Destpack-SGS) and send sample or ship with haulier

We provide the customer the CEFIC-doc relating to Working at heights:

BEST PRACTICE GUIDELINES FOR THE SAFE WORKING AT HEIGHT IN THE LOGISTICS SUPPLY CHAIN AND ALLIED SECTORS. October 2012

Patrick De Block
Business SHE Manager
Ineos Europe AG

Revision date: 20/09/2019

16.5 Discharging in drums or IBCs

INEOS
THE WORD FOR CHEMICALS

Subject: Customer Guidelines for drumming

The following guidelines are applicable for all products of INEOS Oxide and describe guidelines for drumming. In case of any questions, please contact your Customer Service or Sales Representative.

1. **Order of preference for unloading bulk liquids**

The order of preference for unloading bulk liquids is:

- Unload in a bulk liquid storage at the customer premise

If product needs to be drummed, the order of preference is:

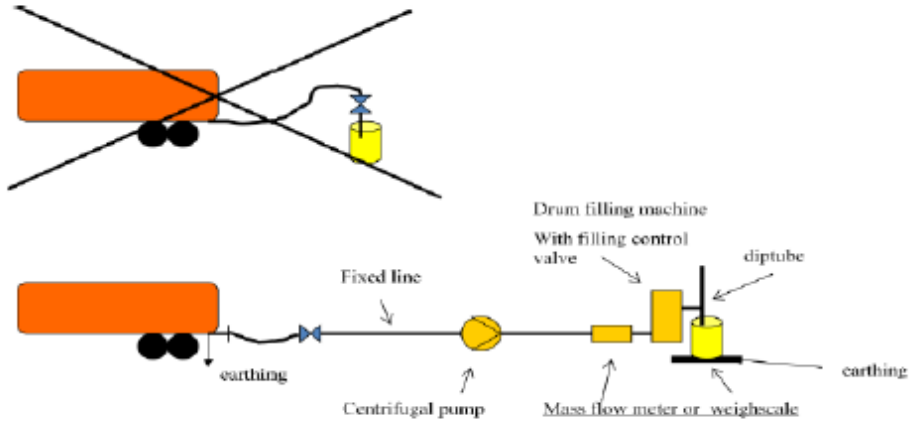
- Unload at the customer site if the guidelines in Chapter 3 are being met
- Unload a an external terminal if the guidelines in Chapter 3 are being met
- Unload at distributor premises if the guidelines in Chapter 3 are being met

Other alternatives are:

- Store a tank container at the customer premises
- Send packaging (drums, IBCs, etc.) out of INEOS Oxide

2. **The following practices are unacceptable**
   - Direct drum filling via a flexible hose into drums / IBCs
   - Assistance by the driver to fill drums / IBCs

Scheme:



3. Full guidelines for drumming

1. Introduction

The standard method of discharging a chemical bulk road tanker or tank container is via the fixed piping of an appropriately designed unloading facility into a bulk liquid storage tank. Discharging road tankers directly into drums or IBC's is potentially a risk operation e.g.:

- The drumming may involve a manual operation where the risk of spillage or personal injury to the local personnel and driver is significantly increased.
- The equipment used may be unsuitable for the operation.
- There may be a potential risk of splash filling and insufficient earthing of the drums that can lead to an increased danger of fire.
- The drumming activity may take place in an area not suitable for this kind of operation (e.g. presence of traffic, non-participating personnel...)
- The operation may be carried out on an exceptional basis, which is not covered by written procedures and involves untrained personnel.

For the above reasons, INEOS do NOT prefer, under normal circumstances products to be discharged from bulk liquid road tankers or tank containers into drums or IBC's. However certain receivers will have drumming facilities that allow the drumming operation to be carried out in a safe and efficient way without the above-mentioned risks.

2. Tank discharge

2.1 The provision of vehicle access needs to be taken into account:

a) A clear, safe access for the vehicle with sufficient room to manoeuvre to and from the discharge point

b) The width, corners, type of surface and load-bearing capacities of the approach road.

c) Headroom under any overhead gantries, any bridge or other restrictions.

2.2 Vehicles must not stand on a road or path used by the public while being discharged and must be at least six meters from a right of way. Unauthorized persons must be kept away from the road tanker (e.g. by fencing off the area around the tanker)

2.3 An earthing point must be provided near the discharge point for connection to the earthing point on the road tanker.

2.4 The area in which the tanker stands during discharge should be designed to act as a catchment sump as a precaution against any possibility that a serious spillage could occur during offloading.

3. Layout of the unloading installation

3.1 Pipe work

The delivery hose must be connected to a fixed connecting point that is fitted with a suitable fitting. The **inlet connection should be at least two meters away from any opening into a building**, such as a door, window or ventilator. It should be positioned as near as possible to where the vehicle will stand during discharge, and should be protected from accidental damage. Ideally, only **one short length of flexible hose** should be used for the tanker discharge operation.

The inlet connection should be located at a convenient height, i.e. not more than 1 meter above ground level, facing outwards, for hose coupling. The inlet line should be fitted with an isolation valve as close as possible to the inlet connection.

-An inlet line of **80mm nominal bore** is a suitable size.

-An **earthing point** should be fitted on the drum filling installation and connected to good earth. The resistance to earth at any point of the installation should be less than 10 ohms. This also applies to the tanker earthing point which preferably should be connected to the same earth, or if independent should have minimal resistance between this and the tank-pipe work system.

-The pipe work system should be designed such that **liquid cannot be trapped between closed valves** without some form of pressure relieving device.

-Joints in pipe work should not be located over doorways, windows or close to possible sources of ignition.

Pipe work should be routed to minimize the possibility of accidental damage.

3.2 Pumps

The discharge can be done by means of **pressure/pressurized air** (for flammable liquids, pressurized air may not be used). However, it is preferred to use a pump for discharge.

-**Positive displacement pumps are not recommended** since these cause a pressure built up in the line system between each drum filling. Therefore, **centrifugal** pumps are recommended

-Any **leakage from the pump seal should be contained** by a low sill around the pump base, or be drained to a safe place.

-The capacity of pumps should be such that the **linear velocity of the liquid being pumped does not exceed seven meters per second** in the pipelines.

-If pumps can be **remotely controlled**, a stop button should be provided both at the pump and at the delivery point.

-Pumps should be constructed from either **cast steel or stainless steel.** Plastic pumps should not be used.

-Pumps may be **driven pneumatically, hydraulically or electrically.**

3.3 Heating facilities

For some products with high freezing points (e.g. Alkoxylates) it is necessary to take precautions, such as the provision of heating and/or **insulation**, to prevent freezing of the product in the pipelines (e.g. electric tracing of the lines).

3.4 The Drum filling installation

The area around the drum-filling machine must be considered as **zone 1.**

The drum filling installation must be of an adequate standard. It should, as a **minimum**, comply with the following requirements:

- In a **sheltered** location
- All electrical equipment: **EX-proof** (Zone 1)
- Determinations of filled quantity by weigh scale or **mass flow meter** (accuracy 0.2%)
- Proper **earthing** of installation, including earthing of drums (resistance to earth max 10 ohms)
- For flammable liquids: **dip tube** that extends to the bottom of the drum/IBC.
- Preferred is a **telescopic dip tube** that is raised during the filling and a reduced filling speed at beginning and end of the filling.
- **Emergency shutdown button** to stop the filling process in case of an emergency
- Adequate **firefighting facilities**
- Adequate **lighting**
- **Vapour extraction system** with vent at safe location or vapor treatment unit
- **Spill catchment facilities** to collect spills during filling

4.Fire fighting equipment

Adequate firefighting equipment should be provided near drum filing and unloading areas, bearing in mind the quantities of flammable liquids likely to be present. Advice on the appropriate firefighting equipment and procedures should be sought from your local Fire Prevention Officer. Some installations may require a certificate of approval from the local Fire Authority.

5.Operating procedures

Direct unloading into drums is very often an **exceptional operation** and therefore it requires proper written operating instructions.
Operating personnel should be **fully trained** in their implementation. The instructions should take account of the specific product hazards, and ensure the correct operation of equipment.

a)Prior to discharge, all appropriate **safety equipment** must be checked and suitably positioned,

b) **Only those personnel directly concerned** with the discharge operation should be in the area, with appropriate clothing being worn.

c) A customer's representative must **identify the discharging point** to be used, and the **earthing point**, and must supervise all connections to the vehicle.

d) The **road tanker should be connected to the earthing point** before the delivery hose is connected. This earth must be maintained throughout the operation and not be broken until after the hose is disconnected, on completion of product transfer.

e) On completion of discharge, the pump (if used) should be stopped and the valves in the pipeline closed. **The drain cock adjacent to the inlet valve should then be opened carefully, to allow any product remaining in the inlet pipe to drain into a receptacle. Next, the hose should be drained through the inlet valve and drain cock into a receptacle.** It is the **customer's responsibility** to provide adequate facilities for the disposal of these hose drainings.

f) All equipment must be properly stowed before the road tanker is given authorization to depart from the discharge point.

6. Electrostatic hazards

Apart from the measures to be taken to avoid the built up of electrostatic charges in the unloading and drum filling installation, one should also take into account that the drums / IBC's may become charged when being filled. Metal drums / IBC's must be earthed while filling flammable liquids. Plastic materials like HDPE have the tendency to accumulate electrostatic charges. Since plastic drums/IBC's cannot be properly be earthed, it is not recommended to fill flammable liquids into plastics drums/IBC's.

7. Cleaning of drum filling installation

It is recommended to use **dedicated lines for each product.** It this is not feasible, the line system must be cleaned properly between each product to avoid contamination or chemical reactions. It is recommended to keep a **log of the previous cargoes** and dates of cleaning of the unloading/drum filling installation.

8. Emergency shower

A clearly marked **emergency shower/eye wash shower** must be present within a radius of 25 meters from the unloading location and the drum filling installation.

9. Protective clothing

During the unloading/drum filling operation, **suitable protective clothing** must be worn by the operators. If drivers are required to remain in stand by close to their vehicle, the drivers must also wear suitable protective clothing

10. Unacceptable practices

The following practices are **not acceptable:**

- **Direct drum filling** via a flexible hose into drums/IBC's
- **Assistance by the driver** to fill the drums/IBC's

Patrick De Block
Business SHE Manager
Ineos Europe AG

Revision date: 25/02/2022

16.6 Tyre Safety Management

QUESTIONNAIRE: HAULIER TYRE INSPECTION REGIME

HAULIER NAME:	
COUNTRY:	
FORM COMPLETED BY:	
DATE:	

Q1. What is the frequency of the legal technical inspections of trucks for your country?

ADR	
Non ADR	

Q2. What is the % of trucks that pass these technical inspections immediately?

%

Q3. What is the frequency of technical inspections/tests that you carry out on your trucks whereby the following are checked:

Running gear general e.g. brakes	
Visual condition of tyres	
Pressure of tyres	

Q4. Do you install remoulded, recutted or remixed tyres on your ADR vehicles?

Yes		
No		
N/A		we do not have ADR vehicles

If yes, on which axles are they fitted?

ADR	Axles traction unit			Axles tridem trailer		
Transport	1	2	(3)	1	2	3
Remoulded tyres						
Recutted tyres						
Remixed tyres						

Q5. Do you install remoulded, recutted or remixed tyres on your non ADR vehicles?

Yes		
No		
N/A		we only have ADR vehicles

If yes, on which axles are they fitted?

non ADR	Axles traction unit			Axles tridem trailer		
Transport	1	2	(3)	1	2	3
Remoulded tyres						
Recutted tyres						
Remixed tyres						

16.7 MPG USP – Sealing Procedure

INEOS

Document for *dedicated* MPG/USP container to be completed by the operator

We kindly ask you to re-seal all opened valves of the transportation equipment immediately after unloading at your site, to write down the seal numbers and to sign and stamp the attached document to confirm the accurate sealing. Returned unsealed transportation equipment or equipment without the requested documentation will be cleaned at your expense. All fields below need to be completed in readable writing.

Bitte füllen Sie alle Felder aus um Reinigungskosten zu vermeiden. Veuillez compléter ce document profondément afin d'éviter le surcoût.

Date / Datum / Date:	
Container ID number / Containernummer / N° de conteneur	
Company Name / Firmaname / Société	
Place of unloading / Entladeort / Lieu de livraison	

Please mention all seal numbers/ Bitte geben Sie alle Plombennummern an / Veuillez remplir tous les n° du plomb

Seal number / Plombennummer/N° du plomb	
Seal number / Plombennummer/N° du plomb	
Seal number / Plombennummer/N° du plomb	
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Seal number / Plombennummer/N° du plomb	

Contact details of the operator / Kontaktdaten des Operators / Coordonnées du opérateur

Your name/ Ihr Name / Votre nom	
only valid with; nur gültig mit; uniquement valable avec: Signature /Unterschrift / Signature /	
only valid with; nur gültig mit; uniquement valable avec: Company stamp / Stempel / Cachet de l'entreprise	
Your Phone Number / Ihre Telefonnummer / Votre numéro de télephone	……../……

Please put the completed document back into the postbox of the container