

INEOS Olefins & Polymers Europe



CODE OF PRACTICE FOR THE SAFE TRANSPORT OF OLEFINS BY RAIL

V9 March 2020

FOREWORD

It is INEOS Olefins & Polymers (O & P) Europe policy that safety of operation must be paramount. The implementation of this policy in the distribution field poses special problems because of the extent to which we are dependent on third parties and the difficulty of supervising distribution operations in the field. We must nevertheless be quite satisfied that our distribution operations are carried out competently and safely, and in accordance with national legislation in force. This Company '*Code of Practice for THE SAFE TRANSPORT OF OLEFINS BY RAIL*' has been prepared to help fulfil this aim.

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This document is not published as a paper document. Therefore any paper documents must be treated as uncontrolled copies. Reference to the website above will always provide the most up-to-date copy. Changes to this document will of course be advised to a wide group of business and site based personnel.

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DISTRIBUTION LIST

Copy No: **Issue To:**

One master copy kept by the Logistics HSE manager Ineos O&P Europe

REVISION DETAILS

<u>Rev No :</u>	<u>Details of Change</u>	<u>Date</u>
2	SQAS rail requirement	February 10
3	Update Emergency tel nrs leasing companies	March 2010
4	Specific requirements for railway carriers New emergency telephone numbers. Reference to new Guidelines for safe degassing of rail tank cars	November 2011
5	New link to SDS intranet site Ineos O&P Reference to CEFIC degassing guidelines (new doc) Marking rtc's under Nitrogen with new label SQAS requirement only for railway carriers Vacuum resistance of existing rtc's: min 0,6 barg Bottom valves with emergency screw or alternative	August 2012
6	Minor changes in technical requirements rtc's New marking rtc's under nitrogen Update contacts wagon keepers	March 2016
7	Extra requirements equipment rtc's O&P North Safety requirements to be included in the contract with railway carriers Added new checklist for yearly technical inspection of rtc's (O&P North) Revised list contact persons wagon keepers Flushing rtc's with nitrogen in Köln: all products up to 0,2 % oxygen max	May 2018
8	Requirements Telematics, maximum Age of rtc	July 2019
9	Use of new design RTC's	March 2020

SECTION 1: INTRODUCTION

- 1.1 Regulations that govern the international transport by rail of dangerous goods in Europe are contained within the European Agreement concerning the international carriage of dangerous goods by rail (RID). All European mainland countries are parties to this agreement.

- 1.2 RID and current national regulations in Europe place obligations on both consignors of goods and operators of rail transport. However, there are certain areas of good practice that are not covered in RID and national regulations in Europe. It is the Company's intention that:
 - a) It shall comply with RID in so far as these regulations apply to the Company.
 - b) It shall comply with domestic legislation governing the transport of dangerous goods in those countries where Ineos O&P trades, in so far as this legislation may place additional or different obligations to RID.
 - c) Through the medium of this Company Code of Practice, it will apply additional areas of good practice to the bulk rail transport of dangerous goods.

- 1.3 All people who are involved in hiring, shipping, loading/unloading, handling, cleaning and inspection of rtc's on behalf of Ineos O&P must know and understand the principles outlined in this Code of Practice.

- 1.4 This document may be used as a specification of requirements for the hire of new Rail Tank Cars (rtc's).

SECTION 2: SCOPE

- 2.1 This Code applies to all bulk movements by rail in Europe on behalf of Ineos O&P of the following products:
- Propylene (C3)
 - Butadiene - 1,3 (C4)
 - Crude C4's (C4)
 - Raffinate 1 (C4)
 - Raffinate 2 (C4)
- 2.2 The areas in which this Company Code lays down requirements, additional to current regulations, are as follows:
- a. Requirements when taking rail tank cars (rtc's) into service
 - b. technical specifications rail tank cars
 - c. Maintenance, inspection and testing
 - d. Incident/ accident reporting
 - e. Gas freeing operations
 - f. Marking/ labelling rtc's
 - g. Safe loading/ unloading practices. Checklists
 - h. Assessment workshops and rail carriers (SQAS)

SECTION 3: RENTING OF RAIL TANK CARS

3.1 Wagon keepers (Rental companies) - hirer (Ineos O&P)

3.1.1 Rail tank cars (rtc's) are not owned by Ineos O&P but rented from specialised companies (wagon keepers). A contractual agreement is made between the wagon keepers and Ineos O&P for the rental of the rail tank cars.

3.1.2 The responsibilities of the wagon keeper are to make available to Ineos O&P rtc's according to Ineos O&P specified requirements and to ensure that the rtc's are maintained, serviced and tested at regular intervals according to the applicable company and national/international regulations.(See section 5) The wagon keeper is not involved in operational matters (loading and unloading) or in transport-related activities. The latter is the responsibility of the railway carriers.

3.1.3 Ineos O&P accepts the responsibility for proper handling and regular (visual) inspection of the rtc and to report any deficiency or damage immediately to the wagon keeper. The wagon keeper determines where the rtc must be repaired bearing in mind to keep the out of service period to an absolute minimum. If the rtc must be made gas free/ cleaned, Ineos O&P decides where this is done. The cost associated with gas freeing and cleaning are for Ineos O&P

3.1.4 The contract between the wagon keeper and Ineos O&P should specify as a minimum:

- In what condition the rtc will be delivered (including state of cleanliness and the tank atmosphere).
- That the hirer will keep the wagon keeper informed about defects, damages etc.
- That the wagon keeper will keep the hirer informed about repairs done.
- Intermediate inspections/tests when applicable
- That the wagon keeper will inform the hirer when construction failures of the same type of rtc have been brought to their attention.
- Under what conditions rtc's must be taken out of service.

3.2 **Technical requirements when taking into service of Rail Tank Cars**

3.2.1 General

Before an rtc is taken into service, Ineos O&P will specify for which products the rtc must be used. This information is essential in order that the wagon keeper can select a suitable type of rtc.

To meet this requirement, a Safety Datasheet (SDS) will be submitted to the wagon keeper in advance.

The wagon keeper must ensure that the rtc offered, complies with all applicable national and international regulations.

According to RID, the wagon keeper shall:

- Ensure compliance with the requirements for construction, equipment, tests and marking of the rtc's
- Ensure that the maintenance of tanks and their equipment is carried out in such a way as to ensure that, under normal operating conditions, the rtc satisfies the requirements of RID until the next inspection
- Have a special check made when the safety of the tank or its equipment is liable to be impaired by a repair, an alteration or an accident.

All rail tank cars shall, as a minimum, meet the requirements of RID.

The rtc must also comply with the technical requirements of rail tank cars as specified in [Appendix 1](#).

If additional technical requirements apply (e.g. special couplings), these will be specified by Ineos O&P to the wagon keeper.

3.2.2 Technical datasheets

The wagon keeper shall submit to Ineos O&P a technical datasheet of the rtc. Where companies are using generic datasheets applicable for a particular type of rtc a specific data sheet must also be supplied for each individual rtc, which describes rtc-specific features (e.g. max loading weights, tare weight, specific couplings etc....)

The wagon keeper must also include data on the location and nature of all the gaskets fitted in the rtc

3.3 **Acceptance of New Rail Tank Cars**

3.3.1 The pre-delivery inspection, (to be done by the wagon keeper) will include:

- Internal cleanliness including the condition of the steel. The international UIP 'Reinheitsschlüssel' (cleanliness key) can be used (see [Appendix 2](#)).
- External condition of the rtc.
- Technical inspection to ensure that:
 - The rtc has approval for the products to be carried
 - The rtc meets the imposed technical requirements - (gaskets, temperature range, connections, valves etc....)
 - Leakproofness of all appendages and valves.

The results of the above mentioned inspections must be confirmed to Ineos O&P

3.3.2 The loading installation must be informed, by the wagon keeper, of the arrival of a new rtc after which loading personnel must receive instructions with regard to:

- Initial leak test of the outlet valves (by site or rental company).
- Labelling requirements
- Condition of the internal atmosphere (under air or nitrogen, and the oxygen content).

SECTION 4: TECHNICAL REQUIREMENTS OF RAIL TANK CARS

All rail Tank cars must, as a minimum, comply with the RID regulations and the applicable national and international regulations on rail transport of dangerous goods.

In addition, the technical requirements for rail tank cars as shown in [Appendix 1](#) must be met.

SECTION 5: MAINTENANCE, INSPECTION AND TESTING OF RTC'S

5.1 Maintenance and periodic testing

- 5.1.1 The maintenance, repair and testing of the tank will be done by a work shop assigned by the wagon keeper bearing in mind that each rtc chassis will be registered to a specific national railway company that may or may not have servicing arrangements in other countries.
- 5.1.2 The revision of the chassis is generally done every 4 to 6 years.
- 5.1.3 RID regulations state that the tank and its appendages have to be tested for leakproofness every 4 years. Proper functional testing of the equipment will be undertaken at the same time. A hydraulic test is required every 8 years.

5.2 Inspection/testing of rtc's before acceptance new hired rtc's

The wagon keeper company must submit to INEOS O&P the certificates of the last tests/revisions of the rtc. As a minimum, the tank, appendages and lines must have undergone a leakproofness test before the rtc is delivered to INEOS O&P.

5.3 Inspection by the Railway Companies at each departure

At each departure, an inspector of the railway company visually inspects the rtc. The inspection is meant to detect visual defects (like the absence of brake shoes, damaged brake hoses etc...), leakages, labelling and damages.

5.4 Inspection/ testing by the loading installation

- 5.4.1 Ineos O&P requires the loading installation to thoroughly inspect each rtc before, during and after loading. This should be done by means of a suitable checklist. An example of this checklist is attached in [Appendix 3](#). The purpose of this inspection is to ensure that:
- The rtc is suitable for its intended use.
 - No damages or apparent deficiencies are present.
 - The applicable RID requirements are met (e.g. labelling).
 - The loading is done under safe conditions

Each deficiency must be reported immediately to INEOS O&P (loading sites).

- 5.4.2 The loading installation must ensure that the outlet valves of the rtc and the connection of the couplings are leak-tight. This can be done by means of a visual inspection / soap test or a vacuum or pressure test of the valves and couplings prior to loading.

5.5 Yearly technical Inspection of rtc's (O&P North)

5.5.1 Although not legally required, in the Company's policy that all rtc's must be visually inspected by a (external) certified rail car technician on a yearly basis. This inspection can be done on an Ineos O&P site.

An example of a checklist which could be used for this is shown in [appendix 4](#)

The type and depth of the inspection will depend on the product, the type of wagon, and the operational circumstances. When operationally feasible, and tanks are cleaned in between two services, it is clear that a more complete check can be done, including leak tests of all valves.

Ineos O&P and the wagon keeper, shall jointly agree about a suitable inspection programme for the fleet, in function of its disposition and availability, with the least possible impact on the service. Apart from the planning, also the resourcing and cost must be agreed in a bilateral relation between each User and Owner.

5.5.2 On top of this inspection, a wear check on the WECO Couplings should be carried out yearly.

5.6 **Cefic Guidelines for inspection and working around railtankcars**

CEFIC have issued guidelines for [safe working around railtankcars](#) and [identification of defects in rail tank cars](#).



The guidelines can be found on the CEFIC website: <http://www.cefic.org/Industry-support/Transport--logistics/Best-Practice-Guidelines1/General-Guidelines->
<http://www.cefic.org/Industry-support/Transport--logistics/Best-Practice-Guidelines1/General-Guidelines-/>

SECTION 6: SENDING RTC'S TO A WORK SHOP FOR REPAIR / MAINTENANCE

6.1 Reporting defects/ damages

Reports of defects or damage to an rtc may come from different sources (rail way company, customer, loading installation). Upon receipt of such a notification, the Ineos O&P Logistics Operating Centre should give it priority and ensure that the wagon keeper is informed as soon as possible.

Rtc's with reported defective or damaged equipment may not be loaded or offered for transport until repair has been made or until it has been reported by the wagon keeper and accepted by the Ineos O&P Logistics Operating Centre that the defect or damage will not endanger a safe transport of the rtc.

6.2 Communication flow

Ineos O&P must inform the wagon keeper of the damage or defect that has been found.

The wagon keeper from his side must inform Ineos O&P about the condition under which the rtc must be presented for repair (cleaned, gas free, under nitrogen).

It is of the utmost importance that all parties involved in the cleaning and repair know the internal condition of the tank and what repairs have to be done.

The Ineos O&P Logistics Operating Centre must be informed of the work that has been done, the internal condition of the tank and final tests done on the rtc.

SECTION 7 : ACCIDENT/INCIDENT REPORTING/EMERGENCY RESPONSE**7.1 Reporting**

Ineos O&P requires all logistics services suppliers to report immediately any accident or incident that occurs during the loading, transport or unloading of the rtc's.

Ineos O&P must ensure that terminals and railway companies are informed of the Ineos O&P accident/incident reporting requirements and that these requirements are complied with.

7.2 Emergency telephone number

The Ineos O&P European emergency telephone number for off site incidents is

+ 44 1235 23 96 70 (NCEC in the UK).

- This emergency response centre has the ability to respond to the caller in all European languages. The number must be displayed on the Transport Document.

Useful emergency telephone numbers :

Ineos Köln PZ: (00 49) (0) 221 3555 2223

Ineos Lavera: (00 33) (0) 442 42 70 91

Wagon keepers:**Köln rtc's**

Name	Adress	Telephone	Contact person		e-mail
Aretz GmbH & CO.KG	Luisenplatz 9 D-47799 Krefeld	00492151852-499 00492151852-498 00491757201797	Mo-Fr 07:30-17:00 24/7 Jürgen Holtermann	Vertrieb	<a href="mailto:Juergen.Holtermann@aretzwa
ggon.de">Juergen.Holtermann@aretzwa ggon.de
On Rail Gesellschaft für Eisenbahnausrüstung und Zubehör mbH	Steinesweg 10 40822 Mettmann	00492104929722 00491737301468 00492104929712	Helmut Lindenberger Adelheid Schmidt	Technik Vetrieb	<a href="mailto:Helmut.Lindenberger@on-
rail.com">Helmut.Lindenberger@on- rail.com <a href="mailto:Adelheid.schmidt@on-
rail.com">Adelheid.schmidt@on- rail.com
On Rail Gesellschaft für Vermietung und verwaltung mbH	Eorttec-Ring 10 47445 Moers	004928418805621 00491722152373	Ulrich Swertz	CEO	Ulrich.Swertz@orv-moers.de
Wascosa AG	Grafenastr. 5 CH-6300 Zug	0041417276767 0041417276751 0041799122377	Mo-Fr 07:30-17:30 Mo-Fr 17:30-07:30 Christoph Becker	Assistent	Christoph.becker@wascosa.ch
Nacco GmbH a CIT Company	Lehmweg 17 20251 Hamburg	00491701291817 0033145615620	Thomas Karsten emergency phone	Key Account	Thomas.Karsten@cit.com
VTG Rail Europe GmbH	Grafenberger Allee 293 40237 Düsseldorf	00492116702166 00494023542288	Christian Kuhn emergency phone	Vertrieb	Christian.Kuhn@vtg.com
GATX Rail Germany GmbH	Carlsplatz 22 40213 Düsseldorf	0049211497038415 004915125845570	Andreas Werle emergency phone	Key Account	Andreas.werle@gatx.eu

Lavera rtc's

Name	Adress	Telephone	Contact person		e-mail
Ermewa	Espace Seine, 26 Quai Milchelet, 92300 Levallois Perret	+33149076852	Celine Lemaitre	commercial	Celine.LEMAITRE@ermewa.com
Millet	41, Rue de st petersburg, 75008 Paris	+33144706450	Philippe Millet	CEO	philippe.millet@millet-wagons.com
Gatx Rail France	52, boulevard de Sébastopol, 75003 Paris	+33173028297	Thierry Bourassin	commercial	thierry.bourassin@gatx.eu

7.3 **Emergency response**

In the event of an accident emergency occurring during transport, Ineos O&P will respond to the emergency by providing specialist advice to the Emergency Services initially by telephone and, if feasible, by sending a specialist to the scene of the accident to provide on the spot advice on the hazards associated with the chemical and the necessary safe handling requirements.

CEFIC, The European Chemical Industry Council, have developed a scheme, called ICE, which contains all data of national emergency response schemes in most European countries. All info can be obtained at: www.cefic.be/en/379.html

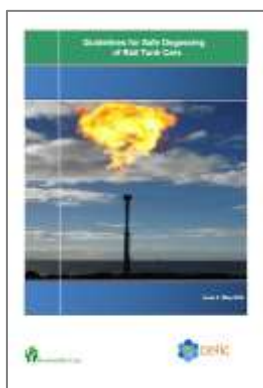
The German national Emergency Reponse Scheme is called TUIS

The French national Emergency Response Scheme is TRANSAID

SECTION 8 : GASFREEING OPERATIONS AND TANK CLEANING

CEFIC have issued guidelines for safe degassing of railtankcars.

It is the aim of the Chemical Industry that degassing of their gas rtc's is done according to these guidelines.



The guidelines can be found on the CEFIC website:

<http://www.cefic.org/Industry-support/Transport--logistics/Best-Practice-Guidelines1/General-Guidelines/>

SECTION 9: THE MARKING OF RTC'S CARRYING COMPANY PRODUCTS & THE PROVISION OF LABELS

9.1 Labelling according to RID

Marking and labelling of rtc's carrying dangerous goods is covered by RID and by national regulations.

It is a requirement of this Code of Practice that rtc's shall be labelled in accordance with the requirements of the regulations in force.

Each Logistics Operating Centre is responsible for:

- a) Identifying the requirements for labelling for those products which they transport.
- b) Ensuring that there is a process in place so that no rtc's, including customer collect rtc's are despatched from loading points without the correct labels being displayed. For marking and labelling : see [appendix 5](#)

9.2 Marking the rtc's with Product Names

The rtc's must be marked with the proper shipping name of the product carried. see [appendix 5](#). This name, which may appear in different languages, must also be mentioned on the stainless steel inscription plate on the rtc.

9.3 Other markings

Rtc's under normal air must be marked with the label 'AIR'
Rtc's under nitrogen must be marked with yellow tape
The international standard according to UIP for marking rtc's under nitrogen is:



N₂ – Nitrogen- N.
N₂ N₂ N₂ N

The tape must be applied around flanges and manlids

SECTION 10: LOADING AND DISCHARGING OF RTC'S

10.1 General

10.1.1 The operations of filling or emptying a rail tank car are of high potential hazard, with containment being broken and the possibility of product spillage. It is therefore important that every effort is made to ensure the correct design of equipment for filling and emptying, and to ensure its correct use.

10.1.2 Company Despatch Centres are responsible for the filling operations carried out within their premises. According to EC directive 96/53, any company involved in transport, loading and unloading of dangerous goods must appoint a Dangerous Goods Safety Advisor (DGSA). The main tasks of the DGSA are:

- Ensure that the applicable regulations for transport of dangerous goods are adhered to
- Advise the company on its activities related to loading/unloading and transport of dangerous goods
- Ensure the proper procedures related to these activities are in place and that people have received proper training
- Ensure that proper inspection methods are in place
- Introduce proper emergency procedures in case of incidents related to these activities
- Incident investigation
- Issue a yearly report covering the above mentioned activities

10.1.3 According to RID, the following obligations apply:

- **The consignor (Ineos O&P)**
 - Ascertain that the dangerous goods are classified and authorized for the carriage in accordance with RID
 - Furnish the carrier with information and data
 - Use rtc's approved for and suited to the carriage of the products and bearing the markings as prescribed by RID
 - Comply with the requirements on the means of dispatch and on forwarding restrictions
 - Ensure that even empty uncleaned tanks are appropriately marked, labelled; closed and present the same degree of leakproofness as if they were full.
- **The carrier (railway company)**
 - Ascertain that the prescribed documentation is attached to the consignment note
 - Ascertain visually that the rtc's and loads have no obvious defects, leakages, cracks, missing equipment etc..
 - Ascertain that the date of the next test for the rtc's has not expired
 - Ascertain that the placards prescribed for the rtc's have been affixed
- **The filler (Ineos O&P or LSP)**
 - Ascertain prior to filling that the tank and the filling equipment are technically in a satisfactory condition
 - Ascertain that the date of the next test of the rtc's has not expired
 - Fill only tanks with the dangerous goods authorized for carriage
 - Observe, during the filling, the permissible degree of filling or the maximum permissible mass of the contents per litre capacity for the substance being filled

- Check, after the filling, the leakproofness of the closing devices
- Affix the prescribed orange plates, danger labels or placards on the rtc's in accordance with the requirements
- Observe, before and after filling, the applicable checking requirements for liquefied gasses according to RID 4.3.3.4

10.1.4 It is not the intention in this section of this Code to set detailed instructions for the loading and discharging of rail tankers. The aim is to highlight certain key points that should be included in the relevant instructions for Company operations or in the advice given to customers on the operations for which they are responsible.

10.2 RTC Loading

- 10.2.1 Filling equipment should be designed and located to meet suitable engineering standards and with due regard to the hazards of the product being handled. Particular attention should be given to the precautions necessary to minimise the generation of static electricity and to the provision of earthing systems. Filling equipment should be subject to regular checks to ensure the maintenance of the standards set.
- 10.2.2 Written operating instructions should be available covering the loading/ unloading of all products into rtc's and personnel fully trained in their implementation. These instructions should recognise the specific product hazards, and ensure the correct operation of filling equipment in both normal and emergency situations.
- 10.2.3 All necessary protective clothing and emergency equipment should be issued or available to Company personnel engaged in the loading of product at bulk filling points, and those personnel trained in its use. All personnel engaged in the loading of rtc's, whether or not such personnel are Company employees must adhere to the Site requirements for the wearing of protective clothing.
- 10.2.4 Provision must be made to ensure that the rtc is immobilised during loading operations. It is recommended that railway tracks are fitted with de-railers, crash barriers or interlock systems to prevent rtc's to enter the loading station during operation
- 10.2.5 Valves, blind flanges or caps must be closed and leak tested prior to the rtc leaving the loading point. In order to ensure that Weco couplings have not been removed by the previous customer, the couplings must be sealed onto the flanges of the rtc. For this purpose, a small hole must be drilled in the flanges and a seal must be put through it. If seals were removed, the connections of the couplings onto the flanges must be leak tested before loading
- 10.2.6 All people involved in the loading operations must be adequately trained. The training should also include basic RID requirements (construction, labelling, marking, inspection etc.. of rtc's)
- 10.2.7 Before, during and after loading, a checklist must be used. This checklist requires operators to check the condition of the rtc prior to loading and to ensure the rtc is ready for departure after loading. (See Section 5.3)
Rtc's which are found unsuitable (e.g. signs of leakages, damages, and defects etc..) shall not be loaded.
INEOS O&P is to be informed about these findings immediately.

Example of checklist is attached in [Appendix 3](#).

10.2.8 Before an rtc is loaded it must be ensured that:

- ☛ It may carry the product
- ☛ The max loading weight requirements taking into account
 - the loading categories
 - the max filling degree is met
- ☛ The rtc is technically fit

10.2.8 Rtc's must be weighed before and after loading to ensure that the maximum filling weight is not exceeded. See also 10.4

10.2.10 The connections must be sealed, preferably with tie-raps in order to warn against unauthorized opening.

10.3 RTC tank atmosphere

10.3.1 For Product quality and safety reasons, the oxygen content must be kept below a certain level.

Köln

All rtc's: 0,2 % max

Lavera

All rtc's: 0,2 % max

10.3.2 For rtc's which come back from a workshop and which have been purged with nitrogen, a purging certificate indicating the oxygen content must be made available to the loading personnel. If no certificate is available, an oxygen test of the rtc atmosphere must be done prior to loading

10.4 Maximum filling weight

10.4.1 Regulations for the transport of dangerous goods stipulate the maximum filling weight in rail tank cars.

This depends on

- The allowed maximum filling weight (capacity) of the tank. This is written on the side of the tank.
- Weight restrictions on the route that the rtc is to be transported. The maximum predetermined loading limit of the railway route is given by the railway transport company. If the maximum filling weight of the railway route is less than the safe maximum filling weight of the rtc, the limit of loading is the lower value.
- The amount of product than can be filled also depends on the maximum filling degree which takes into account the thermal expansion. The maximum filling degrees are included in the table in [appendix 5](#)

To prevent overfilling, the filling weight if the rtc is to be continuously monitored during the filling process on a weighbridge.

The mass flow into the tank should be continuously monitored during the filling operation.

10.4.2 Before transport, the weight of the rtc is additionally checked off line on an independent and officially calibrated weigh bridge. **Special care shall be taken to weigh the loaded rtc within 24 hours of filling !**

10.5 RTC Discharging

10.5.1 The conditions for discharge at a customer's premises are the customer's responsibility. Nevertheless, INEOS O&P has an interest in ensuring that such operating conditions are safe. Therefore, new delivery locations must be audited by Ineos O&P Logistics HSE team to ensure that deliveries can be made safely.

10.5.2 Apart from the inspection of the unloading facilities, it must also be checked that the customer has a proper procedure to ensure that

- No foreign material can enter the rtc during unloading
- The rtc is emptied as far as possible
- The valves and connections (even those which have not been used for discharge) are properly closed and leak tight.
- The oxygen content in the rtc is below the max limits (see 10.3.1)

If couplings are removed to allow making flange connections, it must be ensured that the couplings are installed again after discharge, that the right gaskets are put in place and that a leak test of the connections is made before sending the rtc back.

SECTION 11: SAFETY AND QUALITY ASSESSMENT OF RAILWAY CARRIERS,

11.1: Principle of the SQAS system

The S(afety) Q(uality) A(ssessment) S(ystem) has been launched by CEFIC in order to make independent assessments of the Quality, Safety and Environment standard of Logistics Services Providers, which are accepted by the Chemical Industry. The module which applies here is: SQAS railway carriers

The principles of the SQAS are as follows:

- a) The Railway carrier requests an accredited certification body (normally the same organisation that provides the ISO 9002 certification) to carry out an SQAS assessment.
- b) The certification body provides a qualified assessor, taking into account the criteria regarding background, training and experience for assessors as required by CEFIC.
- c) The assessor carries out the assessment which involves the use of a questionnaire examining in detail the carrier's health, safety, environment, and quality management systems. The assessor must seek documentary evidence of satisfactory systems in place before awarding positive scores.
- d) The assessor produces a completed questionnaire, which when signed and dated constitutes the factual report (the SQAS Assessment Report). The report gives no specific recommendations for improvement nor does it constitute a certificate.
- e) The report is the property of the carrier.
- f) Ineos O&P has access to the SQAS database and can download all available reports. From each report, an evaluation can be made which is used to set up an action plan for improvement.
- g) The report is valid for 3 years

11.2: Ineos O&P requirements

Within 6 months of starting a contract with Ineos O&P, railway carriers need to be SQAS Rail assessed in those areas which fall under the scope of the activities for Ineos O&P. Ineos O&P will evaluate the report and will raise an action plan for improvement.

APPENDIX 1: TECHNICAL REQUIREMENTS FOR GAS RAIL TANK CARS

The rtc's must fully meet the requirements of the RID regulations.

Apart from these, the following specific requirements apply for Ineos O&P rtc's:

- Recommend a support framework (under frame) between the two wheel bogies. Railcars without support framework (under frame) are subject to approval by the logistic safety department.
- According to the tank code applicable for C3 and C4 rtc's (PxBN), it is possible to fit the tank with, or without a safety valve. For Ineos O&P, safety valves however may NOT be fitted.
- Sunshields are not recommended. If they are fitted, a proper system must be in place for inspection and maintenance of the fittings.
- Construction material of the tanks: carbon steel, no internal coating
- All openings in the tank shell (except outlets and manlid) must be welded, not bolted.
- Crash buffers: If the rtc's were built after 1-1-2005, the crash buffers must have an energy absorbing capacity of at least **800** kJ per wagon end (400 kJ per buffer). If built before 1-1-2005, the absorption capacity must be **500** kJ per wagon end (250 kJ per buffer).
- Test pressure C3 rtc's: 27 bar (if no sun shield)
- Test pressure C4 rtc's: 10 bar
- All new built rtc's must be full vacuum resistant. For existing rtc's: vacuum resistance of **minimum 0,6 bar underpressure (is 0,4 bar Absolute)**
- Required: Silent brakes: LL or K brake blocks
- Required: maximum age of rtc's: 30 years
- All new built rtc's must equipped with anticlimbing devices or Headshields according TE 25
- Required type of Bottom valves: hydraulically operated (Emergency screw (Notentleerungsschraube/ Vis de dégivrage) or alternative system)
- Telematics: Only devices with a ATEX category 2, temperature class T3 corresponding with Directive 2014/34 EU (ATEX), at least ATEX marking Ex II 2 G ex ib IIB T3 Gb or better. The responsible persons required to comply with the ex-protection are operators of the mobile equipment (e.g. railtank cars, containers, carrying wagon). This applies to in particular for any special features listed in the operating instructions conditions with regard to explosive protection (letter "X" behind the ATEX certification number).
- Outlet connections: Recommend Flanges: For other systems like Weco approval of cologne site must be given.

Rtc's leased by Ineos O&P Köln

- Outlet connections: Liquid phase: Flanges DN 80
Gas phase: Flanges DN 50
All flanges must be fitted with bolts



OK



Not OK

The length of the bolts in the flanges must protrude at least two threads above the nuts:



OK



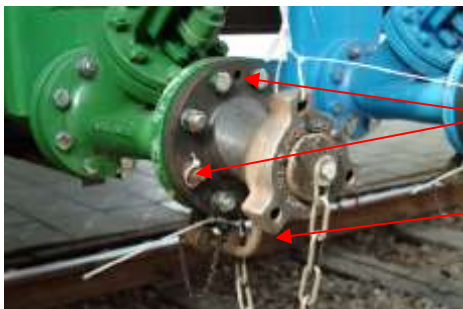
Not OK

RTC's leased by Ineos O&P Lavera

- Outlet connections C3 rtc's Liquid phase: Weco ISO DN 80
Gas phase: Weco ISO DN 50
- Outlet connections C4 rtc's Liquid phase: Weco ACME DN 80
Gas phase: Weco ACME DN 50

In the flanges of the outlet connections, two holes of 1 cm diameter at opposite sites of the flanges must be drilled to allow sealing (tie-raps) of the connections:

As an alternative, a tie -rap can be put through a hole in two bolts: example



Tie -rap through bolt hole

Holes to put a tie-rod through

- Bottom valves: type: hydraulically or mechanically operated emergency screw (Notentleerungsschraube/ Vis de dégivrage) or alternative system

Distance of connections:




APPENDIX 2: INTERNATIONAL CLEANLINESS KEY (REINHEITSSCHLUSSEL)

Figure 1. Material	Figure 2. Surface Appearance									Figure 3. Product residue reference	Figure 4. Condition	Figure 5.
	1	2	3	4	5	6	7	8	9			
1. Mild steel	Clean, No rust	Clean, slight rust dust	Slight oxidation, powdered rust	Powdered rust, and slight discoloration	Powdered and compacted rust, strong discoloration	Layered rust, rust pitting	Loose rust flakes		Special stipulations	0 No residue, no odour, dry 1 No residue, slight odour, dry	1 Air 2 Nitrogen	not yet in use
2. CrNi-Steel 3. CrNiMo-Steel 8. Aluminium	metal clean	metal clean, slight shading	Dull metal, discoloration from product carried	Uneven due to corrosion	Uneven due to corrosion with discoloration	Localised corrosion			Special stipulations	2 No residue, product related odour, dry 3 firm deposits, product dust	3 Other Specification	
4. Soft or hard natural rubber lining or comparable polymer quality 5. Enamel lining 6. Lead lining 7. Coatings	Clean, surface intact	surface intact	Surface not intact, Blisters, peeling, lifting due to corrosion						Special stipulations	4 Barrel plates slightly oily, greasy, no firm deposits 5 Barrel plates slightly oily, greasy, firm deposits 6 Empty, no visible residue, steamed out 7 Up to 2 ‰ residue 8 Residue over 2 ‰ 9 Special stipulations		

Date: January 2001

APPENDIX 3: CHECKLIST FOR LOADING GAS RAIL TANK CARS

1. Identification			
1.1 Number rtc			
1.2 Number rtc in accordance with loading order. <i>(Numéro wagon correspond à celui mentionné sur la feuille de chargement)</i>	YES	NO	
1.2 Loading ref nr			
1.3 Product	Butadiene,1-3 <input type="checkbox"/>	Raffinate 1 <input type="checkbox"/>	Propylene <input type="checkbox"/>
	Crude C4 <input type="checkbox"/>	Raffinate 2 <input type="checkbox"/>	
1.5 Danger code/product code (2x)	239 1010	23 1965	23 1077
1.6 Danger labels (2x)	 <input style="width: 40px; height: 25px; margin-left: 100px;" type="checkbox"/>		
1.7 Date of next tank test <i>(Nächste Kesselprüfdatum, date de la prochaine épreuve citerne)</i>			
1.8 Date of next revision chassis <i>(Date de la prochaine épreuve chassis)</i>			
1.9 Inspection/ test dates valid			
1.10 Tare weight according to Inscription board			
1.11 Tare weight after weighing rtc (may differ a bit from 1.10)			

2. BEFORE LOADING	YES	NO	N/A
Rtc free of visual damage- general condition is OK			
Sunshield OK			
Condition foot steps OK			
Condition crossing bridge OK			
Handbrake in good condition and operational			
Brake hose OK			
Screw couplings OK			
Brake system OK (brake shoes not worn out)			
Buffers OK: (crash buffers operational)			
Axle box housing – no signs of overheating			
Springs OK			
Wheels OK (no damages/ no flat wheels)			
Earthing plate present			
Railhook cable/ ring present and in good condition			
Earthing lugs between chassis and tank present and in good condition			
Rtc marked with non conformity note Railways ? If yes:Which model of note Which defect/damage			

2.3	Markings inscription board/chassis and barrel properly readable (L/R)			
2.5	Right product name marked on wagon (L/R) (<i>Produktzulassung,</i>)			
2.6	Last load in rtc has been checked			
2.7	Mass of residue in rtc has been determined by weighing and has been taken into account to determine the loading weight			
2.8	Max weight to be loaded is in accordance with max weight limits			
2.9	Caps (Weco) fitted with chains			
2.10	Visual inspection of connections, bottom valve, outlet valve and tank OK			
2.11	Bottom valve indicators OK and emergency screw in right position (sealed for mechanical bottom valves/ in hydraulic oil reservoir for hydraulic bottom valves) . No signs of leaking hydraulic oil .			
2.12	Gaskets of blindflanges at the other side of the rtc (gas and liquid phase) replaced and blindflange properly bolted. (<i>Blindeckeldichtung der Gegenseite (Gas- und Flüssigphase) erneuert und Blinddeckel ordnungsgemäss verschraubt,)</i>			
2.13	Visually no leaks of all valves, flanges, caps (Weco), manlid, tank.. (<i>Sichtkontrolle auf Dichtigkeit durchgeführt: Armaturen, Flansche, Kappe Mannloch, Kessel.., L' étanchéité visuelle de l'ensemble de la citerne: vannes, tampons plein, bouchons(Weco) , dome, citerne vérifiée)</i>			

3. AFTER Loading		YES	NO	N/A
3.1	Visually no leaks of all valves, flanges, caps (Weco), manlid, tank.. (<i>Sichtkontrolle auf Dichtigkeit durchgeführt: Armaturen, Flansche, Kappe Mannloch, Kessel.., L' étanchéité visuelle de l'ensemble de la citerne: vannes, tampons plein, bouchons(Weco) , dome, citerne vérifiée)</i>			
3.2	Bottom valve operating mechanism and indicator in closed position. (<i>Bodenventil verriegelt, Stellungsanzeige in Ordnung, commande du clapet de fond et indicateur en position fermé ..)</i>			
3.3	Outlet valves sealed at both sides (<i>Armaturen beidseitig verplombt, vannes plombées des 2 côtés)</i>			
3.4	Bottom valve operating mechanism sealed at both sides (<i>Bodenventilbetätigung beidseitig verplombt , commande de vannes fond plombée des 2 côtés)</i>			
3.5	Gaskets blindflanges/ caps (Weco) loading site (gas and liquid phase) replaced: blindflanges properly bolted and caps properly tightened. (<i>Blindeckeldichtung/ Kappe der Ladeseite (Gas- und Flüssigphase) erneuert: Blinddeckel ordnungsgemäss verschraubt und Kappe angezogen)</i>			
3.6	Right product indication and danger labels in place (<i>Produktschilden und Etiketle angebracht,</i>)			
3.7	Nitrogen added if necessary. (the partial pressure of the nitrogen may not exceed 2 bar)			
3.8	Pressure rtc at departure: bars (<i>Pression de départ: bars</i>			
3.9	Weight rtc after loading			
3.10	Max filling degree OK			

9.Remarks:

Inspected by: _____

Date: _____

APPENDIX 4: CHECKLIST FOR YEARLY TECHNICAL INSPECTION RAIL TANK CARS (O&P North)

RTC (Rail Tank Car) Inspection Checklist					
RTC Number: (KWG Nr/N° Du Wagon/Wagonnummer)		Inspected by: (Inspektion durchgeführt von/Inspecte' par/Inspectie uitgevoerd door)			
RTC Owner: (KWG Eigentümer/Propriétaire Du Wagon/Wagoneigenaar)		Date: (Datum/Date/Datum)			
1.	IDENTIFICATION / IDENTIFIKATION	Remarks Bemerkung			
1.01	Tankcode + Tank volume: Tankzulassung + Tankvolumen:				
1.02	Next tank inspection (month-year): nächste Kesselprüfung (Monat-Jahr):				
1.03	Date of underframe revision: Datum der letzten Untergestell Revision:				
1.04	Danger Code + Product Code: Gefahrencode + UN Nummer:				
1.05	Danger Labels: Placards:				
1.06	Emergency contacts (tel. number, e-mail): Notfallkontakte (Telefon, e-mail):				
1.07	Product Name attached: Produktname angebracht:				
1.08	Tara weight: angeschriebene TARA:				
1.09	Load limit: Lastgrenze:	C	D		
1.10	GPS Unit: GPS Einheit:	ID:			
2.	Overall Condition/Gesamtzustand	OK	N.OK	N.A.	Remarks/Bemerkung
2.1	Sunroof: Sonnendach:				
2.2	Tank (e.g dents, graffiti): Tank (z.B. Beulen, Graffiti):				
2.3	Insulation: Isolierung:				
2.4	Inscription (railcar number etc.) : Anschriften (Kesselwagennummer etc.):				
2.5	Readability of text on railcar: Lesbarkeit der Anschriften am KWG:				
2.6	Tankplate: Tankschild:				
2.7	Condition of Labeling (RID): Zustand der Belabelung (RID):				
2.8	Warningsicker of high tension lines: Warnaufkleber Hochspannung:				
3.	Underframe / Untergestell	OK	N.OK	N.A.	Remarks/Bemerkung

3.01	Shuntingsteps: Rangiertritte:					
3.02	Walkways: Laufstege:					
3.03	Buffers (type: crash or normal): Puffer (Crash oder Normal):				Type:	
3.04	Buffers and Plates greased: Puffer und Teller geschmiert:					
3.05	Anti climb system: Aufkletterschutz:					
3.06	Axle guard box, condition hot box: Radlagehäuse, Zustand, Heissläufer:					
3.07	Springs (type: screw or leaf): Feder (Typ: Schraube oder Blatt):				Type:	
3.08	Wheelsets: Radsätze:					
3.09	Screw couplings: Schraubenkupplungen:					
3.10	Screwcouplings Greased: Schraubenkupplungen geschmiert:					
3.1.	Brake Blocks / Bremssohlen	OK	N.OK	N.A.	Remarks/Bemerkung	
3.1.1	Material (Steel, K, LL): Material (Stahl, K, LL):				Type:	
3.1.2	Brake hose and coupling: Bremschlauch und Kupplung:					
3.2.	Overall Brake System/Zustand Bremsen	OK	N.OK	N.A.	Remarks/Bemerkung	
3.2.1	Hand brake in good working condition: Handbremse im guten Zustand:					
3.2.2	Hand brake system greased: Handbremssystem geschmiert:					
3.2.3	Overall brake system greased: Gesamtbremssystem geschmiert:					
3.2.4	Brake rod adjuster (not bend, rotatable): Bremsversteller (nicht fest fest, drehbar):				Optional wenn schlechter Zustand	
3.2.5	Derailment detection system (+DET): Entgleisungsdetektor:					
4.	Instructions	OK	N.OK	N.A.	Remarks Bemerkung	
4.1	Operating instructions bottomvalve: Bedienungsanweisung Bodenventil:					
4.2	Operating instructions vapor return valve/venting: Bedienungsanweisung Gaspendelung/Belüftung:					
5.	Bottom Loading/unloading Füll- / Entleereinrichtungen (UNTEN)	GAS	LIQUID	GAS	LIQUID	N.A.
5.01	Discharge line: Entladeleitung:					
5.02	Indicator of bottomvalve in closed position: Anzeigeeinrichtung in geschlossener Position:					

5.04	Operating system in good condition: Bedienungseinrichtungen im guten Zustand:					
5.05	Locking mechanism in good working condition: Verschlusseinrichtung im guten Zustand					
5.1.	Liquid Connections/ Flüssig Anschlüsse					
5.1.1	Side valves, ball valve or side valve?: Seitenventile Kugelhahn oder Ventil?:	Type:			Type:	
5.1.2	Dry break couplings, producer: Trockenkupplungen, Hersteller:					
5.1.3	Selectivity Dry break couplings: Selektivität Trockenkupplungen:	Sel Code:			Sel Code:	
5.1.4	ID Dry break couplings: Seriennummer Trockenkupplungen:	ID:			ID:	
5.1.5	Locking mechanism sidevalve: Sicherungseinrichtung Seitenventil:	(Y/N)			(Y/N)	
5.1.6	Blind Flange or dustcap (incl. chain): Blindflansch oder Staubkappe (inkl. Kette):					
5.1.7	Screws complete and long enough: Schrauben komplett und lang genug:					
5.2.	Vapor Connections/ Gas Anschlüsse					
5.2.1	Side valves, ball valve or side valve?: Seitenventile Kugelhahn oder Ventil?:	Type:			Type:	
5.2.2	Dry break couplings, producer: Trockenkupplungen, Hersteller:					
5.2.3	Selectivity Dry break couplings: Selektivität Trockenkupplungen:	Sel Code:			Sel Code:	
5.2.4	ID Dry break couplings: Seriennummer Trockenkupplungen:	ID:			ID:	
5.2.5	Locking mechanism sidevalve: Sicherungseinrichtung Seitenventil:	(Y/N)			(Y/N)	
5.2.6	Blind Flange or dustcap (incl. chain): Blindflansch oder Staubkappe (inkl. Kette):					
5.2.7	Screws complete and long enough: Schrauben komplett und lang genug:					
5.3.	Other	OK	N.OK	N.A.	Remarks Bemerkung	
5.3.1	Railhook cable: Zugseil für Schienenhaken:					
5.3.2	Emergency discharge bolts in safe position: Notenleerungsschrauben in sicherer Position:					
5.3.3	Hydraulic system free of leakage: Hydrauliksystem ohne Leckagen:					

5.3.5	Earth connection (eg. discharge): Erdungsanschluss (zB. Entladung):				
5.3.6	Earth cable (bogies): Erdungskabel (Drehgestell):				
6.	Repairs/Comments (Reparaturen/Kommentare)				

APPENDIX 5: PRODUCTS, CLASSIFICATION, LABELING AND RTC REQUIREMENTS

ACCORDING TO RID

Olefins products transported by rail

Product	site	contains	UN nr	PSN	Hazard id nr	hazard label	max filling degree. Kg product /L capacity	test pressure rtc Bar	special provisions	RID tank provisions	energy absorbing elements 800 kJ/ side (crash buffers)
Butadiene- 1,3	K/L	> 99 % Butadiene,1-3	1010	butadiene stabilized	239	2.1 + 13	0,55	10	618	TU38,TE22,TT9,T A4,TM6	yes
C4 Fraction/ Crude C4	K/L	> 40 % 1,3- Butadiene	1010	butadienes and hydrocarbons stabilized	239	2.1 + 13	0,50	10	618	TU38,TE22,TT9,T A4,TM6	yes
Raffinate I	K/L	> 35 % isobutylene	1965	HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S. (isobutylene, but-1-ene) (<i>mixture A</i>)	23	2.1 + 13	0,50	10	274/583	TU38,TE22,TT9,T A4,TM6	yes
Raffinate II	K	57 % Butene	1965	HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S. (butylene) (<i>mixture A</i>)	23	2.1 + 13	0,50	10	274/583	TU38,TE22,TT9,T A4,TM6	yes
Propylene	K/L	> 93 % propylene	1077	propylene	23	2.1 + 13	0,43	27	-	TU38,TE22,TT9,T A4,TM6	yes
Product	site	contains	UN nr	PSN	Hazard id nr	hazard label	max filling degree: Vol %	test pressure rtc Bar	special provisions	RID tank provisions	energy absorbing elements 800 kJ/ side (crash buffers)
Benzene	L	> 99 % benzene	1114	benzene	33	3	97/ 1+ α (Tr-Tf)	4	-	-	No

Labels:

2.1:



3:



13:



α

APPENDIX 6: HSE REQUIREMENTS FOR RAILWAY CARRIERS

1: Legal requirements

All transports must be carried out in accordance with national and international regulations. Responsibilities for Railway carriers as defined in RID must be met at all times

This includes:

- Ascertain that the dangerous goods to be carried are authorized for carriage according to the RID
- Ascertain that the prescribed documentation is attached to the consignment note and is also forwarded
- Ascertain visually that the rail tank cars (rtc's) and loads have no obvious defects, leakages, cracks, missing equipment etc..
- Ascertain that the date of the next test for the rtc's has not expired
- Verify that the rtc's are not overloaded
- Ascertain that the danger labels and markings prescribed for the rtc's have been affixed

2: Reporting Near misses and incidents/ accidents

Ineos O&P requires the railway carrier to report any near misses/ incidents or accidents that occur during transport, even if the product is not affected..

For reporting incidents and accidents, the Ineos O&P European emergency telephone number must be used:

+ 44 12 35 23 96 70 (NCEC in the UK).

This emergency response centre has the ability to respond to the caller in all European languages.

All incidents and accidents related to Ineos O&P transports must be thoroughly investigated within a reasonable time period and an investigation report must be sent to Ineos O&P.

3: Safety requirements to be included in the contract with the Railway carriers (RU's)

- * RU's are not allowed to take decisions which increase the risk of the rail transport.
- * SQAS Rail mandatory, or obligation to get assessment within 6 months. If sub contractors are used, they must be SQAS rail assessed as well.
- * RU's to provide Ineos with the routes that will be taken for Ineos transports if requested.
- * Ineos to reserve the right to impose another route if risk assessment proves that it is safer
- * Ineos to reserve the right to carry out spot checks/ audits.
- * Requirement for RU's to report all incidents that occur during transport activities for Ineos, even if the load is not affected

4: Safety and Quality Assessment (SQAS)

Within a period of 6 months after signing the contract with Ineos O&P, the Railway Carrier shall ask CEFIC for an SQAS Rail assessment which covers all the activities for Ineos O&P.

The SQAS rail report shall be evaluated by Ineos O&P.

Following this assessment, the railway carrier shall issue an action plan for improvement;

The SQAS rail assessment report will be valid for a period of 3 years for

Info on www.sqas.org.