

INEOS Olefins & Polymers Europe



CODE OF PRACTICE FOR THE SAFE TRANSPORT OF OLEFINS BY RAIL

v10 July 2024

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.

This document is published on the Olefins Logistics HSE website accessible at <https://www.ineos.com/businesses/ineos-olefins-polymers-europe/logisticsmatters/>








SHE policy:

INEOS is a safe and environmentally responsible company.

Our commitment is to protect the health and safety of our employees, contractors, the communities in which we operate and the users of our products. We aim to meet and where practicable exceed all relevant legislative requirements and minimise the effect of our operations on the environment.

Our goal is zero injuries, to be achieved through a positive safety culture in which we believe all accidents are preventable.

Life Saving Rules

-  ▪ No consumption or being under the influence of alcohol or drugs on company property
-  ▪ No smoking outside dedicated smoking areas
-  ▪ No work on live equipment/machines to commence without authorisation
-  ▪ Safety critical devices/interlocks must not be disabled or overridden without authorisation
-  ▪ Persons working at height must use proper fall protection
-  ▪ No entry to confined space without authorisation and gas test
-  ▪ Lifting & hoisting – no unauthorised person to enter the defined danger zone where objects can fall

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 SHE 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.	November 2011
5	Reference to new Guidelines for safe degassing of rail tank cars 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
10	General review & update	January 2024

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 (actual table can be found on <https://otif.org>).

- 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 liquefied gas (bulk) movements by rail in Europe on behalf of INEOS O&P with focus of the following products:

- Propylene (C3)
- Butadiene 1.3 (C4)
- Crude C4's (C4)
- Raffinate 1 (C4)

Some Items out of this COP are general, therefore also applicable for other product streams, the detailed requirements should be cross checked with the SHE department.

The relevant Olefins Safety Data Sheet can be found in their latest revision on the INEOS O&P internal Sharepoint: [TOP North SDS Olefins – Home \(sharepoint.com\)](#)

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. 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 together with the wagon keeper where this is done.

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 wagon keeper will keep the hirer 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.
- That the wagon keeper will keep the hirer informed about which kind of Telematics are used and which measurements are needed to use same in a safe way.
- Data transmission/handling to a by INEOS choosen platform

3.2 Technical requirements when taking into service of Rail Tank Cars

3.2.1 General

Before a 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, the relevant 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.

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.
- When applicable: installed Telematic solution
- 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....)
 - Leak proofness of all appendages and valves.

The results of the above-mentioned inspections must be confirmed to INEOS O&P, before delivery (protocol and pictures), alternative option usage of an INEOS representative to observe the inspection at the workshop.

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 regarding:

- 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 shall, as a minimum, meet the requirements of the latest RID revision (without usage of a RID exceptional rule).

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

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

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 workshop 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 leak proofness 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 leak proofness 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. 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**

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

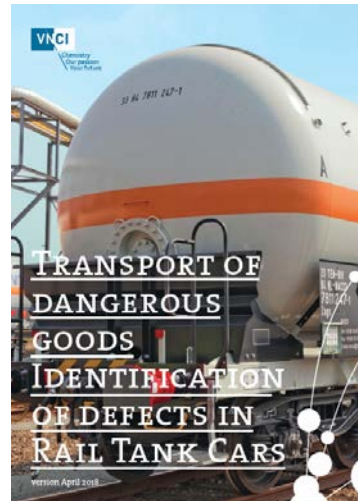
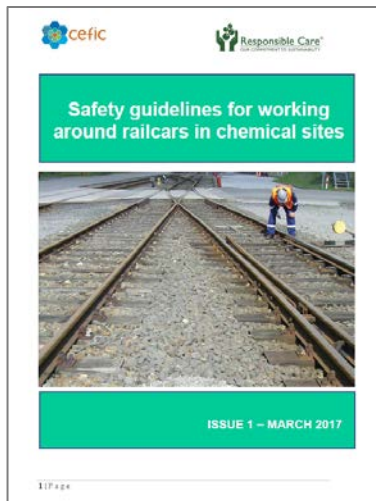
An example of a checklist which could be used for this is shown in [appendix 4](#)

The type and depth of the inspection will depend on the product, the type of wagon, and the operational circumstances.

5.5.2 On top of this inspection, a wear check of Dry Break or WECO Couplings (if equipped) should be carried out yearly.

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

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



The guidelines can be found on the CEFIC website ([Cefic is the European Chemical Industry Council. visit us on cefic.org](#))

SECTION 6: SENDING RTC'S TO A WORKSHOP

6.1 Reporting defects/ damages

Reports of defects or damage to a rtc may come from different sources (railway 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 must 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 offsite incidents is

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

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

7.3 Emergency response

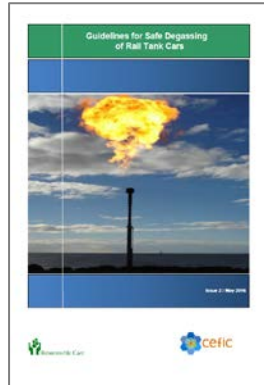
In the event of an accident emergency occurring during transport, INEOS O&P will respond to the emergency by providing specialist advice to the Emergency Services initially by telephone and, if feasible, by sending a specialist to the scene of the accident to provide on the spot advice on the hazards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

Cefic provides also some usefull information about the National ICE (Intervention in Chemical transport Emergencies) schemes:

[National Schemes | Cefic \(ice-chem.org\)](https://www.ice-chem.org/)

SECTION 8: GASFREEING OPERATIONS AND TANK CLEANING

CEFIC have issued guidelines for safe degassing of raitankcars. 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 ([Cefic is the European Chemical Industry Council. visit us on cefic.org](http://www.cefic.org)).

SECTION 9: THE MARKING OF RTC's CARRYING COMPANY PRODUCTS

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.

9.2 Marking the rtc's with Product Names

The rtc's must be marked with the proper shipping name of the product carried. 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-Technical Note for marking rtc's under nitrogen is:

a. Label

A yellow tape with black letters containing the chemical symbol for nitrogen N₂ shall be applied:



Versions with writing in CEN language (Nitrogen / Stickstoff/ Azote) are accepted as well, e.g.:



b. Location

- manholes
- Product- and vapour return connections

c. Way of application

The tape shall be applied by the nitrogen flushing company in a way, that ensures

- not to fall off
- Removal while using the connection

SECTION 10: LOADING AND DISCHARGING OF RTC's

10.1 General

10.1.1 Most of the O&P products are subject of RID 1.10 (Security plan)

10.1.2 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.

10.1.3 Companies are responsible for the filling operations carried out within their premises. According to RID 1.8.3 any company involved in transport of dangerous goods must appoint a Dangerous Goods Safety Advisor (DGSA) with the necessary certificates.

10.1.4 INEOS O&P has an interest in ensuring that all operating conditions are safe. Therefore, new delivery or loading locations should be checked by INEOS O&P Logistics HSE team to ensure safe handling of the product.

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 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. To ensure that Weco or Dry-Break couplings have not been removed by the previous customer, the couplings could be sealed onto the flanges of the rtc. For this purpose, a small hole must be drilled in the flanges and a cable tie should 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.
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.
- 10.2.8 Before a 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.
- 10.2.9 The connections must be sealed, preferably with tie-raps 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.

Typical threshold of oxygen content from two production sites:

Köln

All liquified gas rtc's: 0,2 % max

Lavera

All liquified gas rtc's: 0,2 % max

A deviation to above oxygen content should be communicated upfront and must approved by the responsible site.

- 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 tank plate & side of the tank (for liquefied gases a product specific).
- 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.
- Official TARA weight, written on the rtc
- Amount of residual product in the tank
- The amount of product than can be filled also depends on the maximum filling degree which considers the thermal expansion.

10.4.2 Before transport, the weight of the rtc is additionally checked offline 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.

SECTION 11: SQAS ASSESSMENT OF RAILWAY CARRIERS

11.1: Principle of the SQAS system

The Safety & Quality Assessment for Sustainability has been launched by CEFIC 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. Info on www.sqas.org.

1: 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.

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 could 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 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 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 transport 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

APPENDIX 1: TECHNICAL REQUIREMENTS FOR GAS RAIL TANK CARS

Rtc's must fully meet the latest requirements of the RID regulations.

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

(A deviation from these requirements for new rented should always covered by a Risk Evaluation and site approval.)

- Recommend a support framework (under frame) between the two-wheel bogies. Railcars without support framework (under frame) are subject to approval by the 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 man lid) 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 800kJ per wagon end (400kJ per buffer). If built before 1-1-2005, the absorption capacity must be 500kJ per wagon end (250kJ per buffer).
- Test pressure C3 rtc's: minimum 27bar (if no sun shield)
- Test pressure C4 rtc's: minimum 10bar
- All new built rtc's must be full vacuum resistant.
- 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 to TE 25
- **Required type of Bottom valves: hydraulically operated are preferred (for new rent a mechanical operated bottom might also be allowed after risk evaluation and approval of the specific site).**
- Certification 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 for any special features listed in the operating instructions conditions regarding explosive protection (letter "X" behind the ATEX certification number).
- Position Telematics: visible and floor based for checking purpose
- Outlet connections: Recommend Flanges: For other systems like Weco or Dry Break Coupling approval of site must be given.
- **The weighing length must be below 16m (outer axle distance), distance of 13,9m is recommend**

Details loading/unloading connection:

Rtc's leased by INEOS O&P (Cologne site)

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



OK

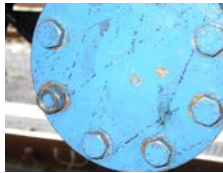


Not OK

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



OK



Not OK

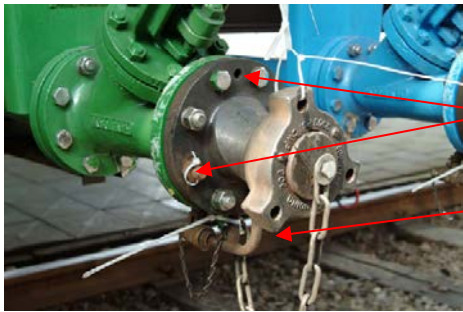
Product specific (Butadiene): rtc's for the usage of Butadiene should be equipped with Dry Disconnect couplings (DDC) according Cefic Guidance Document: Couplings for Butadiene Railcars (issue date 2020) [Guidance document \(petrochemistry.eu\)](http://petrochemistry.eu)

**Bottom connections: Liquid phase: Dry disconnect Couplings DN 80 (NATO STANAG 3756) Male
Gas phase: Dry disconnect Couplings DN 50 (NATO STANAG 3756) Male**

RTC's leased by INEOS O&P Lavera

- Bottom connections C3 rtc's Liquid phase: WECO ISO DN 80 male
Gas phase: WECO ISO DN 50 male
- Bottom connections C4 rtc's Liquid phase: WECO ACME DN 80 male
Gas phase: WECO ACME DN 50 male

In the flanges of the outlet connections, two holes of 1 cm diameter at opposite sides of the flanges must be drilled to allow sealing (cable ties) of the connections:
As an alternative, a cable tie can be put through a hole in two bolts: example



Cable ties through bolt hole

Holes to put a cable tie through

Distance of connections:



APPENDIX 2: INTERNATIONAL CLEANLINESS KEY

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	n o t y e t i n u s e
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 RAIL TANK CARS

Reference checklists can be found on the following webpage: www.otif.org

To download the checklists, please follow the example path: (Reference Texts/latest RID/Guidelines)

Name of the documents:

RID-20021-CE for liquid products

RID-20022-CE for liquefied gases

APPENDIX 4: CHECKLIST FOR YEARLY TECHNICAL INSPECTION

The checklist can also be found on our SharePoint:

[TOP North OPE-SHE-LOGISTICS-OLEFINS - Preventive maintenance - Alle Dokumente \(sharepoint.com\)](#)

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: Bremsschlauch 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)				