



## **Guidelines for the safe unloading and storage of Polyolefins in packed form**

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## Distribution List

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## Revision Details

<u>Rev.No.:</u>	<u>Details of Change</u>	<u>Date</u>
1.	First version prepared by Logistics Safety.	Nov 2008
2.	Update by Luc Van de Velde	Jan 2017
3.	Full revision. Revision on stacking risks of pallets with bags. Recommendation for safe stacking of pallets. Operation clean sweep. Zero Pellets loss policy.	Jan 2024

# **1. INEOS O&P – Customer commitment**

In support of the increasing demand for Polyolefins, INEOS Olefins & Polymers (O&P) has developed a network of modern production facilities spread across Europe. The locations are determined largely by the proximity to feedstock supply and, to aid efficiency and product quality, they tend to specialize in specific polymer types.

For the customer, INEOS O&P recognizes the need for materials of all grades to be available to meet both regular delivery lead times and support the development of planned inventory management systems.

In order to achieve the highest level of availability and service, INEOS O&P use the most modern distribution techniques. These include the use of specialized vehicles and containers for road, road-rail or road-ship deliveries. Supply reliability is also optimized by using strategically located Polyolefins material stocks across Europe. Furthermore, the continuous development of effective packed handling and customer supply for Polyolefins remains an important part of INEOS O&P's distribution service.

Quality and safety are one of the keywords of INEOS O&P strategy. All the Company's European Polyolefins production centers are registered to ISO 9001 standards. This demonstrates the commitment by the Company to the product manufacturing and distribution network, performing to specification – first time and every time. But to you, the customer, this simply means material delivered on-specification and on-time.

This document, which outlines some of the principal requirements for the handling of INEOS O&P packed goods, is published as part of the Company's service to its customers.

The products that Ineos O&P deliver to their customers are packed in high quality materials in order to preserve the quality of the products and to allow a safe handling, storage and transport.

## 2. Purpose of this document.

This document is meant as a guideline and intends to advise the Ineos O&P customers about the conditions required for the safe unloading and storage of these packed materials.

**The final responsibility to define and maintain the minimum safety standard on site rests with the customers.**

Whilst the information is of a general nature, further details and technical support are available from INEOS O&P.

The Polyolefins referred to in this document are Polyethylene (Linear Low Density, Low Density and High Density) and Polypropylene.

Ineos O&P deliver their Polyolefins mainly in 3 types of packagings:

- Pallets with 55 bags of 25 kg each. Gross weight pallet: 1,4 ton.



- 1000/1100 kg Octabins or bigbags



### 3. Driver safety on site.

During the time that a driver is at the customer's site, the customer is legally responsible for his safety. It is therefore important that the driver receives clear instructions on the safety requirements that apply on site.

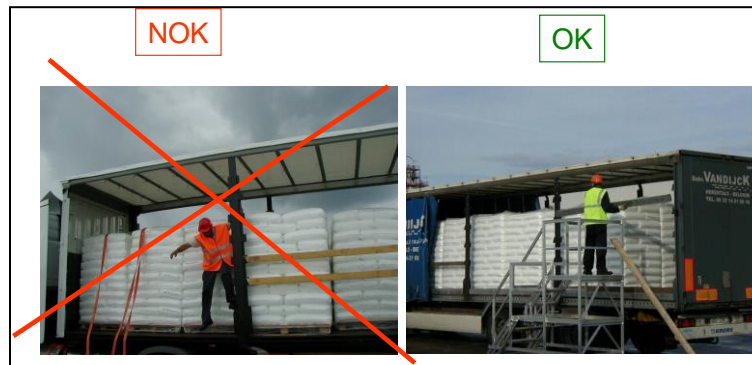
This can be done by giving the driver a document with the safety instructions or to clearly display the safety instructions at the site entrance.

These instructions must be in a language that the driver understands. In order to overcome language issues, pictograms, photos and/ or signs can help.

The minimum information that a driver needs is:

- The general site safety requirements on site.
- The Personal Protective Equipment required on site. (The recommended minimum PPE for all people in the warehouses and unloading area's is: Safety shoes, HIVIS jackets, hard hat, safety glasses)
- No smoking policy.
- No use of mobile phone.
- What to do in case of alarm.
- Where and to whom he has to report himself for unloading
- Working at heights risks.
- Etc..

Examples:



Annex 1 shows an example of driver safety instruction on Ineos O&P sites.

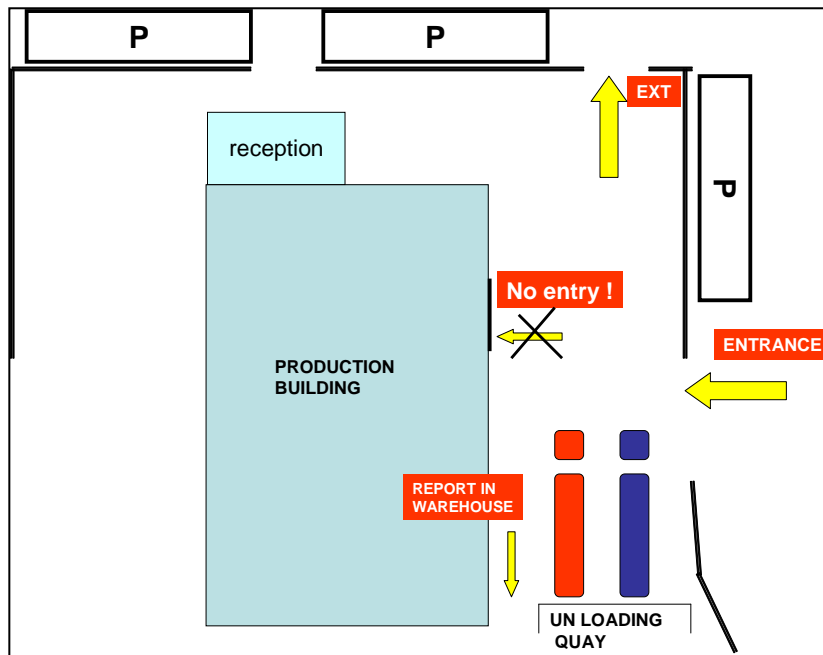
## 4. Access to the unloading place.

The truck must have a clear and unobstructed access to the unloading place. This means:

- There are no obstructions which make it difficult to maneuver.
- There is no need to drive backwards on the site for several hundred meters with risk of collisions or hitting people. If reversing is required, this should be done with the assistance of an operator.



It is important that the driver receives clear instructions **where** he has to unload and **where** he has to report himself. A simple drawing helps. Example:



Make sure the driver does not need to enter the production area in order to find an operator.  
Tip: install a bell which the driver can ring to call the operator.



The unloading place must be located within the company's premises and **NOT** on the public road.

If unloading is done from the sides, make sure that there is enough space around the truck to allow the forklift to operate safely without the risk of collisions with vehicles, pedestrians etc..

## 5. Unloading

### 5.1. Working at height. (WAH -> Life Saving Rule)







All Ineos O&P packed goods are firmly secured on the trucks according to EU regulations. This is done by means of straps. For Octabins, wooden frames are installed between each block of 6 Octabins.

The driver needs to remove these. The driver must have safe means to work on his trailer and it is strongly recommended to provide him with a mobile safety ladder. Example:







### 5.2. Forklift/ traffic safety (Segregation rule)

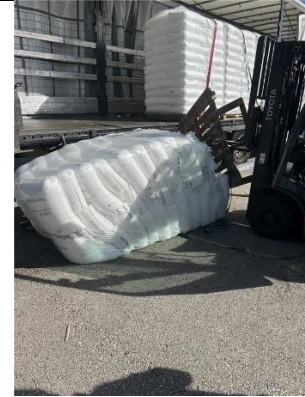
The roads must be in good condition, (even ground, no potholes....)	
Floors must be clean (no oil spills, no water in the warehouse..)	
Enough maneuvering room and height clearance along the routes.	
<p><u>At these locations where it is practically feasible:</u></p> <p>Install protective barriers and/ or clearly marked gangways to separate FL's from pedestrians.</p>	A photograph showing a long, narrow aisle in a warehouse. The floor is concrete and has a yellow line painted on it, indicating a designated path. On the right side of the aisle, there is a low, dark-colored protective barrier. In the background, there are stacks of white goods and a high ceiling with industrial lighting.
<p><u>At these locations where it is practically feasible:</u></p> <p>Indicate pedestrian routes by means of lines/ markings on the floor.</p>	A photograph showing the entrance to a warehouse. The floor is paved and has a white line marking that curves around a doorway. A red forklift is visible in the background, parked near the entrance. There are some signs on the wall near the door.

	
<p>At these loading/ unloading places where people, other than the driver and the FL operator may pass, fence off the loading area with banks/ barriers or clear signs.</p>	
<p><b>A forklift/ truck driver segregation system must be in place.</b></p> <p>The driver stays in his cabin during unloading. He is only allowed to leave his cabin when he has to remove the stanchion poles and/ or open the curtains, and only when requested by the FL driver.</p> <p><b>The FL driver has to stop unloading when the driver leaves his cabin.</b></p>	
<p>Clear indication of route/ traffic flow by means of signs, road markings, etc.</p>	
<p>At these locations where it is practically possible, keep routes for trucks away from warehouse doors and gates. If this is not possible, clear warning signs must be in place.</p>	
<p>Adequate lighting must be in place</p> <p>Supporting beams in the warehouse which are in the driveway of the forklifts must be properly protected from collisions and must be painted in High Visibility colors.</p>	
<p>FL drivers to sound the horn when coming at blind corners/ intersections or through gates.</p>	



	
<p>Install rotating beacons at the warehouse gates which are activated automatically when a FL is approaching the gate.</p>	
<p>Install clear pictograms indicating:  emergency exits, doorways, forklift traffic,  location fire alarm,  location firefighting equipment, etc.</p>	
<p>Install convex mirrors at intersections with bad visibility.</p>	
<p>Always drive backwards with a loaded pallet (except for 'high seaters').</p> <p><b>The height of the pallets is such that forward driving limits the visibility in front of the forklift causing a dangerous situation.</b></p>	
<p>The National Road Traffic Regulations should apply on site.</p>	

Before lifting a load, FL drivers must always check the weight and the permitted weight of the FL in order to avoid overloading.  
**Ineos O&P pallets weigh 1,4 ton.**



Forklifts can tip over whereby the forklift driver may be thrown out of the cabin and become fatally injured when the forklift falls onto him, **therefore, seat belts must be worn.**

### 5.3. Unloading the truck

Unloading from the sides is preferred to unloading from the back.

If the trucks are unloaded from the back one of the following options needs to be in place:

- Wheel chocks must be placed before loading/ unloading.
- Driver must be asked to hand over his keys or asked to wait at a “safe” place inside the warehouse.
- A vehicle/ trailer restraint systems to clamp the wheels and to physically remove the drive away hazard.



Always be careful when opening the doors/ curtains. Although the load is fully secured, there is always a risk that it has shifted and that pallets/ octabins are leaning against the doors/ curtains.

Inspect the load before discharge. If damages are found, make sure that the pallets/octabins are still stable to allow safe unloading.

### 5.4. Unloading containers with mobile ramps

- When unloading trucks/ containers by using mobile ramps, the trucks/ containers must always be linked properly to the ramps by means of chains.



- Wheel chocks must be placed under the wheels of the truck and, depending of the type of ramp being used, wheel chocks must be placed under the wheels of the ramp.

## 5.5. Securing container doors in open position

When containers are unloaded, the doors must be properly secured in open position to avoid that they are caught by a gust wind.

Examples:



## 6. Storage

### 6.1. General

For quality reasons it is preferred to store bags on pallets and octabins inside a warehouse.

### 6.2. Bags on pallets

Whether or not stacking can be allowed depends on a number of factors such as

- Type of product (e.g. grades containing slip agents cannot be stacked)
- Temperature of the product. (Higher T entails a higher risk)
- Thickness of the bag foil. (FFS)
- Thickness of the shrink/ stretch wrap foil.
- Condition of het ground floor (evenness, solid, ...)
- Type of stacking. (e.g. pyramid stacking)
- Outside Temperature (higher T entails a higher risk)
- Use of intermediate boards between the pallets.
- PP polymers are more sensitive to external temperature than PE polymers.

Basic rules and recommendations when stacking pallets in storage areas:

- No activity allowed next to a stacked pallets rows without a proper risk assessment.
- Labelling operations ONLY done at ground level on a single pallet in a dedicated area.
- No labelling done on a stacked pallets.
- Staff, operators, forklift drivers must be trained initially to stack pallets and the associated hazards and what to do if...
- Minimise human activities in the storage areas / warehouses where pallets are stored.
- Use of machine to perform cleaning activities, protecting individuals.
- If cleaning has to be performed manually, remove all stacked pallets around the perimeter to be cleaned (risk assessment to be performed).
- Labelling/ signage with instructions to not enter the area with forklifts/stacked pallets for visitors or people not necessary for daily operation.
- Special operations like bag repair, spill containment, de-palletizing, etc. always done on un stacked pallets in a dedicated safe area and NOT in the area of stacked pallets.

Below some guidance if the customer wants to double stack:

Double stacking of pallets can only be done when the pallet is clearly stable and squared.

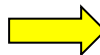
Double stacking can **NOT** be done when

- The pallets are fitted with a pictogram: “no double stacking”



- The pallets / bags / hooder are damaged.
- Pallets are stored under high ambient temperatures.
- Pallets are stored on a sloping floor.

Never double stack the front row along pedestrian walkways.



Always leave 1 meter distance between the pallets and the warehouse walls. If this aisle is used as a pedestrian walkway, do not double stack the pallets closest to the walkway.

A good method for safe double stacking is pyramid stacking



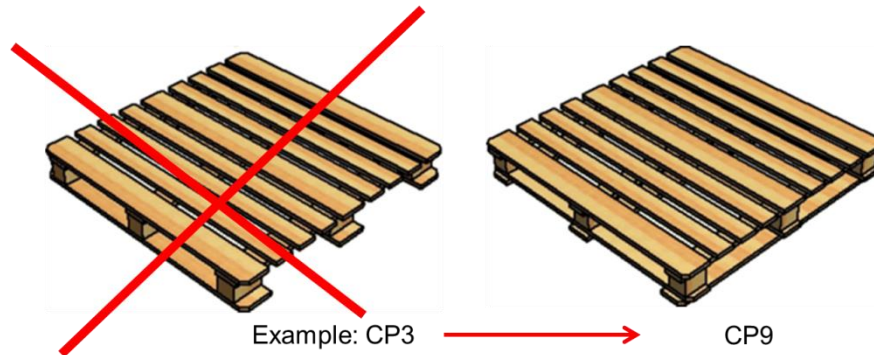
Ensure that staff is skilled, and fully trained.

Make regular visual inspections. Damaged or leaning stacks should be de-stacked immediately. Even 1 broken bag that is leaking pellets can make a pallet unstable.



Only pallets with 6 bottom boards can be used for stacking because:

- Lower pallet: the average breaking load is much lower for a pallet with 3 bottom boards than for a pallet with 6 bottom boards
- Upper pallet: 3 bottom boards make the upper pallet unstable during stacking



### 6.3. Octabins/ bigbags

- **Never double stack octabins or bigbags.**
- The cardboard may absorb moisture from a highly humid atmosphere and weaken the cardboard
- The empty space between the cardboard and the hood (of non-telescopic octabins) makes an octabin unsuitable for stacking
- Store octabins inside a cool, dry, warehouse
- Octabins are designed for single trip use only and should not be re-used.



## 6.4. Storage in racks

Storage racking for products on pallets should be designed specifically for the size, shape and weight of the pallets being stored.

The racking design should be compatible with the pallets and the materials handling equipment in use within the workplace.

It is important that the Safe Working Limit for the unit load or the safe working total load per bay for the racking is never exceeded.

The pallets must be properly supported so that the weight of the pallet is evenly distributed over the bottom boards.

It is recommended to perform tests before storing Ineos O&P pallets in racks.

Ineos O&P pallets have NOT been approved for storage in racks and therefore Ineos O&P cannot give any guarantee that their pallets are suitable for storage in racks.

## 7. Operation Clean Sweep

Researchers are reporting more and more data about the negative effects of litter in the marine ecosystem, usually plastics being the largest component of marine litter.

Resin pellets that escaped from the industrial process are also a reported part of this marine litter. The plastics industry and their end users must therefore focus on proper containment of these pellets.

We must prevent the pellets from getting into waterways that finally lead to the sea.

INEOS is committed to increase the awareness of everyone involved in the supply chain including own employees, logistics service providers and customers.



To demonstrate their commitment to a clean environment, INEOS require all service providers to sign up to the “Operation Clean Sweep pledge” and go for OCS certification.





More information can be found on [opcleansweep.eu](http://opcleansweep.eu)

Some basic rules and recommendations for handling and storage of pellets:

- Repair bags immediately when broken in a safe way as described above.
- Cleanup spills immediately. Do not leave pellets on the floor for a long time.
- Put pellets in a closed bin after cleaning.
- Avoid getting pellets in the sewer system by installing filters in the gutters (outside) or cover them (inside)
- Train staff, forklift drivers and co-workers in the principles of OCS.
- Install awareness signs.

## 8. INEOS O&P Customer support

For further information about INEOS O&P products or technical advice about product handling, please contact your local Regional Sales Representative or the Ineos O&P Customer Service Center in Köln.

This document and other Logistics SHE information of INEOS O&P can be found on the following site:

<http://www.logisticsmatters.info/>

# Annex 1: example safety instructions for drivers at Ineos O&P loading sites



## LOADING RULES

## PACKED

**1**



**2**



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**3**



**4**



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**5**



**6**



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**7**



**8**



**9**



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