



NON AUTHORITATIVE TRANSLATION

Warning: *Notwithstanding great care has been taken in translating the Dutch exemption document, differences between the English and Dutch text may occur. In cases of disputes or discrepancies the Dutch text shall prevail.*

Decree No. 004 / RHN / 2017

The Harbour Master of Amsterdam

Has decided to impose a prohibition on the degassing of certain substances by inland tankers at berth.

The Harbour Master of Amsterdam,

having regard to;

- Article 5.1, paragraph 5, of the Havenreglement Noordzeekanaalgebied 2012 (Port Regulations for the Noordzeekanaal area 2012);
- Article 7a.2, paragraph 1, of the Provinciale Milieuverordening Noord-Holland (Provincial Environmental bye-law of Noord-Holland);
- The Order of 20 March 2013, No. 82035371 M 7698408 / 1, mandating, the Harbour Master of Amsterdam on behalf of the Mayor and Aldermen of Amsterdam to take decisions on the grounds of the Regionale Havenverordening Noordzeekanaalgebied 2012 (Regional Port Bye-laws for the Noordzeekanaal area 2012) and the Havenreglement Noordzeekanaalgebied (Port Regulations for the Noordzeekanaal area 2012).

having considered that:

- degassing directly into the atmosphere of certain volatile organic compounds from the cargo tanks of inland tankers can cause environmental nuisance and may have health impacts;
- in the Provinciale Milieuverordening Noord-Holland (Provincial Environmental bye-law of Noord-Holland, a prohibition on the degassing of certain volatile organic compounds by inland tankers while underway has been included for the same reason (to prevent environmental nuisance);
- it is also necessary to impose a prohibition on the degassing by stationary ships in order to prevent environmental nuisance and health impacts;
- in this way, the harbour master aims to impose a similar regulation for the degassing by stationary inland tankers as the one included in the Provinciale Milieuverordening Noord-Holland (Provincial Environmental Bye-law of Noord-Holland),

has decided the following:

1. The skipper of a stationary inland tanker is prohibited to degas cargo tanks containing residual cargo vapours of the following substances:
 - a. benzene (UN number 1114);
 - b. crude oil (UN number 1267) insofar as it contains more than 10% benzene;
 - c. petroleum distillates NES with more than 10% benzene or petroleum products NES with more than 10% benzene (UN number 1268);
 - d. jet fuel with more than 10% benzene (UN number 1863);
 - e. inflammable liquids with more than 10% benzene (UN number 1993); or
 - f. Hydrocarbons, fluid, with more than 10% benzene (UN number 3295);on the understanding that:
 - I. A residual cargo vapour means a cargo vapour with a concentration higher than or equal to 10% of the lower explosion limit of the substance concerned.
 - II. The prohibition does not apply if it can be demonstrated that the three previous cargoes in the cargo tank concerned did not consist of the substances mentioned under a. to f. or if it can be demonstrated that the previous cargo in the cargo tank concerned consisted for more than 95% of another substance than mentioned under a. to f.
 - III. The prohibition does not apply if the degassing takes place in the following circumstances:
 - a. For pressure equalizing reasons in view of safety;
 - b. If degassing is necessary for safety reasons during or after a calamity with an inland ship.
2. The Municipal Board may grant exemption from the prohibition as referred to under 1.
3. This Order shall enter into force on 1 March 2017.

Date: 27 February 2017.

The Mayor and Aldermen,
on their behalf,
the Harbour Master of Amsterdam,

M.F. van de Kerkhof

Explanation:

1. What is degassing?

A good many cargoes in liquid form are transported across waterways. This applies, for example, to volatile organic compounds such as benzene. After having unloaded its cargo, the inland tanker has to so-called “strip” its cargo tanks. This is done in order to remove as much of the inland tanker's residual cargo as possible. However, after stripping, a substantial amount of that cargo will still be present in the tanks in vapour form. This is called the residual cargo vapour. This residual cargo vapour will often be released into the atmosphere to prevent contamination with the new cargo. The release into the atmosphere is called degassing. Degassing does not require any emission-limiting measures. Degassing usually takes place after departure from the location where the cargo has been unloaded.

After the cargo tanks have been stripped, the tanks are sometimes also washed. Ships are required to pump the tank washing water ashore. Tank washing reduces the amount of residual cargo vapour still remaining in the cargo tanks. Prior to loading a new cargo, however, the cargo tanks must be dry. For that purpose, the cargo tanks are ventilated. Ventilating falls within the definition of “drying” and therefore does not fall within the scope of this Order.

2. Alternatives for degassing

The following alternatives for degassing are available:

- a. Dedicated transport. This is a method in which the ship is loaded with the same kind of cargo as the previous one. Dedicated transport eliminates the need for degassing.
- b. Compatible transport. There is also no need for degassing if the ship is to be loaded with a cargo that is compatible with the previous cargo. In chemical, physical and/or economic terms, the residual cargo vapours still present in the tank do not negatively affect the new cargo. The residual cargo vapours, therefore, cannot cause contamination of the new cargo. In practice, the industry can use a list of substances that are compatible with the controlled substances referred to in this Order: the so-called “compatibility list”. As more substances are added to this list, there will be less need for degassing or for the use of a degassing installation.

In the first two cases, the residual cargo vapour can remain in the tank until the moment when, during loading, the vapour will be automatically forced out of the tank and then transferred to a shore-side tank. For permanent and responsible processing, residual cargo vapours can also be delivered to a facility intended for that purpose ashore or on the water.

Finally, techniques are conceivable with which residual cargo vapours are removed from a tank in order to re-use them in the production process. Such techniques may be present with, for instance, a shipper.

General

On 1 March 2017, a prohibition on the degassing of certain volatile organic compounds by inland tankers while underway will enter into force by means of the Provinciale Milieuverordening Noord-Holland (Provincial Environmental Bye-law Noord-Holland).

These volatile organic compounds are coming from the cargo tanks. This prohibition is in line with a similar prohibition included in the Provincial Environmental Bye-law Noord-Holland. This prohibition includes the following substances: benzene (UN number 1114); crude oil (UN number 1267) insofar as it contains more than 10% benzene; petroleum distillates NES containing more than 10% benzene or petroleum products NES containing more than 10% benzene (UN number 1268); jet fuel containing more than 10% benzene (UN number 1863); inflammable liquids NES containing more than 10% benzene (UN number 1993); and hydrocarbons, fluid, containing more than 10% benzene (UN number 3295).

The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (hereinafter referred to as ADN), permits the degassing of these substances while underway. The ADN provisions not only deal with the transport of dangerous substances as such, but also with the transport of cargo tanks with residues of dangerous substances such as in residual cargo vapours. Regulations, for instance, are given for degassing. These regulations aim, in particular, to prevent accidents and harmful effects on health, for instance for crew members. These regulations, however, do not concern the contamination of the environment caused by degassing and the corresponding dangers to public health. However, the ADN does not prevent the regulation thereof. The ADN, after all, states that degassing is permitted under the conditions mentioned above, unless degassing is prohibited on the ground of international or national provisions (see ADN Rn. 7.2.3.7.0¹).

In accordance with the ADN, the competent authority may approve locations where stationary inland tankers are permitted to degas (see Rn. 7.2.3.7.1² en 7.2.3.7.2³). This is also recognised in ADN Rn. 7.2.4.7.1⁴. For ports, with respect to the Rns. mentioned above, the harbour master is the competent authority⁵. In the port of Amsterdam, the harbour master has designated the dolphins in the Afrikahaven as berths where stationary

¹ ADN RN. 7.2.3.7.0.

Only if it is not prohibited on the ground of international or national provisions, degassing into the atmosphere of cargo tanks which have been unloaded or are empty is permitted under the following conditions:

² ADN RN. 7.2.3.7.1

Unloaded or empty cargo tanks that previously contained dangerous substances of UN classes 2 or 3 with a classification code in which the letter "T" appears in column (3b) of table C of chapter 3.2, UN class 6.1, or UN class 8 packing group I, may only be degassed by authorised persons in accordance with subsection 8.2.1.2, or by companies that have been recognized for that purpose by the competent authority. Degassing may only take place at locations permitted by the competent authority.

³ ADN RN. 7.2.3.7.2

Unloaded or empty cargo tanks that have contained other substances than the dangerous substances as referred to under 7.2.3.7.1, may be degassed when underway or, when stationary, at locations approved by the competent authority by means of appropriate ventilation systems on condition that the tank covers have been closed and the discharge of the gas-air mixture takes place through flame-arresting installations capable of enduring a continuous fire. Under normal operating conditions, the concentration of the product at the place where the gas-air mixture is released into the atmosphere must be less than 50% of the lower explosive limit. Suitable ventilation installations for degassing by means of suction may only be used if the flame-arresting installation has been directly connected to the suction side of the ventilator. If pressure or suction type ventilation installations are used, the gas concentration must be measured every hour by an expert as referred to in 7.2.3.15 during the first two hours of the degassing operation. The measurement results must be recorded in writing. Degassing is prohibited, however, in the vicinity of locks, including their outer harbours.

⁴ ADN RN. 7.2.4.7.1

Tankers may only be loaded, unloaded or degassed at locations designated or permitted for that purpose by the competent authority.

⁵ See Appendix 4 of the Dutch Regulation on the carriage of hazardous substances by inland waterways.

inland tankers are permitted to degas⁶. The Order (No. 077/RHN/2012) will remain in force for:

- a) substances not mentioned in this Order;
- b) degassing not subject to 1. under II and not subject to 1. under III; and
- c) degassing for which an exemption has been granted.

In accordance with the ADN, no emission-restricting measures need to be taken during degassing operations. The ADN's principal aims are the following:

- a) the safety of transport across inland waterways;
 - b) the protection of the environment with regard to accidents and incidents;
- Degassing of substances can cause environmental nuisance and health impacts. The Provinciale Milieuverordening Noord-Holland (Provincial Environmental Bye-law of Noord-Holland) regulates safety and health.

The harbour master of Amsterdam aims to impose a similar regulation for the degassing by stationary inland tankers as the one included in the Provinciale Milieuverordening Noord-Holland (Provincial Environmental Bye-law of Noord-Holland). It is important to establish identical regulations, aimed at the prevention of environmental and health impacts, prohibiting stationary ships as well as ships underway to degas the substances mentioned above.

As indicated, the prohibition is specifically aimed at benzene and benzene-containing hydrocarbons. The substances as referred to in this Order are grouped in class 3: Inflammable liquids.

This grouping is primarily relevant with respect to transport safety (the risk of fire and explosion). Exposure to the substances concerned, however, has also harmful effects on health. In accordance with Regulation (EC) No. 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No. 1907/2006, benzene and benzene-containing hydrocarbons are not only flammable, but - among other things - also carcinogenic (chances of a specific form of leukaemia), mutagenic (chances of genetic damages such as miscarriages) as well as otherwise harmful.

The harmful effects on health may occur as a consequence of so-called direct exposure when working with these substances. Especially employees and consumers are confronted with the dangers of direct exposure. Furthermore, harmful effects on health may occur after the discharge of the substances concerned into the atmosphere such as during degassing operations – the indirect exposure, namely through the environment - that constitutes a threat to public health. In addition to these dangers to human health, benzene in the air (just like any other hydrocarbon in the air) may lead to unwanted ozone formation and so to summer smog and its harmful effects on health.

Explanation of the terms used in this Order:

An inland tanker is an inland vessel constructed or adapted for the carriage of bulk liquid products in its cargo tanks.

⁶ Order No. 077/RHN/2012 Designation of lay-by berths for tankers.

The term “stationary” in this Order means that the inland tanker is moored.

The degassing prohibition is directed at the skipper. The definition of that notion is in line with the description included in Article 1.1 of the Regionale Havenverordening Noordzeekanaalgebied (Regional Port Bye-laws for the Noordzeekanaal Area 2012). The skipper is the person actually in command of an inland vessel when it is underway. This ensures that immediate action can be taken with respect to degassing.

The definitions of benzene and benzene-containing hydrocarbons have been derived directly from the so-called list of hazardous substances included in table C, chapter 3.2, of the ADN. The UN number, determined by the United Nations, can be used to identify the nature of the cargo.

The option chosen is for a concentration of residual cargo vapour of 10% under the lower explosive limit (10% LEL) of the substance concerned. A vapour concentration of 10% or more under the lower explosive limit is the determining factor for compliance with a number of provisions of the ADN. This applies, for instance, to the maximum permitted concentration of degassed residual cargo vapour at the gas release place. For the purpose of compliance with these requirements, a tanker has to be fitted out with a flammable gas detector including its instructions for use.

The degassing prohibition does not apply either if it can be demonstrated that in the previous cargo situation the ship's tank was filled for more than 95% with a substance that differed from the substances mentioned in 1a to 1f. Because in that case it is assumed that the concentrations of benzene and benzene-containing hydrocarbons in the residual cargo vapour in the cargo tank will also be negligible. The filling factor of a tank can be demonstrated with the help of a tank capacity table and the cargo documents which are present on board every ship. The filling factor of each tank is established by dividing the volume stated on the cargo documents by the volume of the tank.

The exception included in this Order is in line with a corresponding one in the Dutch Regulation on the carriage of petrol in mobile tanks 2006. In the event of pressure equalizing for safety reasons, however, degassing is permitted. The need for pressure equalizing may exist when temperatures and - as a consequence - also the pressures in the ship's cargo tank are rising. Pressure equalizing for safety reasons may also exist when taking measurements and samples. In those cases, the vapours will leave the tank by means of the safety relief valves.

In the event of calamities, degassing can also be necessary. Calamities with ships can always occur and it would not be in the interest of safety to require market parties to keep benzene-containing residual cargo vapours in the ship's cargo tank during a calamity or during repair works after a calamity.