

Situation Update: Hydrogen Fluoride Incident

MPET Antwerp | Tank container HFAU1005070 | Issued 31st August 2026

JEAN-PIERRE ASSAKER

CL Benelux Regional Manager
Marine & Cargo Surveyor
CESAM Average Agent in Antwerp
jpassaker@cl-surveys.com

What has happened on Port of Antwerp

On 14 July 2026, a hazardous-material incident occurred at the Deurganck Dock in the Port of Antwerp-Bruges when a container carried aboard the MSC MIA SUMMER II sustained damage, resulting in the release of hydrofluoric acid and/or hydrogen fluoride vapour (hereinafter referred to as "HF"). The release occurred while the vessel was berthed at the MSC PSA European Terminal ("MPET") and prompted the immediate activation of emergency-response procedures.



Owing to the highly toxic, corrosive and volatile nature of HF, the incident gave rise to an extensive contamination zone affecting both the vessel and the surrounding terminal area. Emergency measures included the evacuation of personnel, the establishment of a safety perimeter, the temporary suspension of cargo-handling and marine operations, and the deployment of specialised hazardous-material response teams.

A substantial number of terminal personnel and other persons potentially exposed to HF were referred for medical examination and observation.

Based on the information presently available, approximately 740 containers located aboard the affected vessel or vessels and within the terminal area were considered potentially exposed to, or contaminated by, HF and its residues. The incident also reportedly resulted in contamination of additional property and infrastructure, including the vessel or vessels concerned, cargo-handling equipment, terminal installations, operational surfaces and other associated materials.

The full nature, extent and distribution of the contamination remained subject to detailed investigation, atmospheric monitoring, surface sampling and specialist assessment. Accordingly, the identification of affected containers and other

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property, together with the determination of suitable decontamination, handling, segregation and disposal measures, formed an essential part of the subsequent survey and loss-mitigation process.

A crisis management situation is still on integrating court surveys and involving authorities. CL Surveys is taking part being nominated by different cargo survey interest and implemented a crisis cell due to a particular situation: in addition to the containers that were blocked in Antwerp, a number of containers could escape worldwide and delivered by the shipping company ad destination without any control step carried on by involved logistic parties. Among those containers, a number were containing food. To be noted that due to that very particular situation and nature of the gas, none of the containers could not be yet inspected, which our surveyors shall soon start under particular precaution/protective measures under control of authorities.

Hydrofluoric Acid (HF)

What It Is

Hydrofluoric acid (HF) is a solution of hydrogen fluoride gas in water: a colourless, fuming liquid below approximately 19°C, or a colourless gas above that temperature. Chemically, HF is classified as a weak acid — but this is misleading, because its hazard profile is fundamentally different from, and in key respects far more dangerous than, that of strong mineral acids such as sulphuric or hydrochloric acid.

Common Uses

- Glass and silicon etching (including semiconductor manufacturing)
- Rust and metal-oxide removal
- Aluminium and uranium processing
- Oil refining (alkylation processes)
- Certain industrial and specialty cleaning products

Why It Is Uniquely Dangerous

Unlike strong acids, which cause immediate, visible surface burns, the small and largely un-ionised HF molecule penetrates skin and deep tissue rapidly rather than remaining on the surface. Once absorbed, the fluoride ion binds aggressively with calcium and magnesium in the blood and tissues, depleting them. This can cause hypocalcaemia, hypomagnesaemia and life-threatening cardiac arrhythmia — potentially from an exposure covering as little as 1–2% of body surface area with a concentrated solution.

Fluoride continues attacking tissue and bone until it is chemically neutralised, causing progressive, deep destruction that can extend to dissolving bone.

Critical hazard: dilute solutions (under 20%) frequently cause no pain for several hours, and sometimes up to 24 hours, after contact. Victims often do not realise they have been seriously exposed until tissue damage is already advanced. Concentrated solutions (over 50%) cause immediate, severe burns.

Exposure Routes and Health Effects

- **Skin contact:** delayed pain with dilute solutions; immediate severe burns with concentrated solutions; systemic toxicity possible even from limited surface-area exposure.

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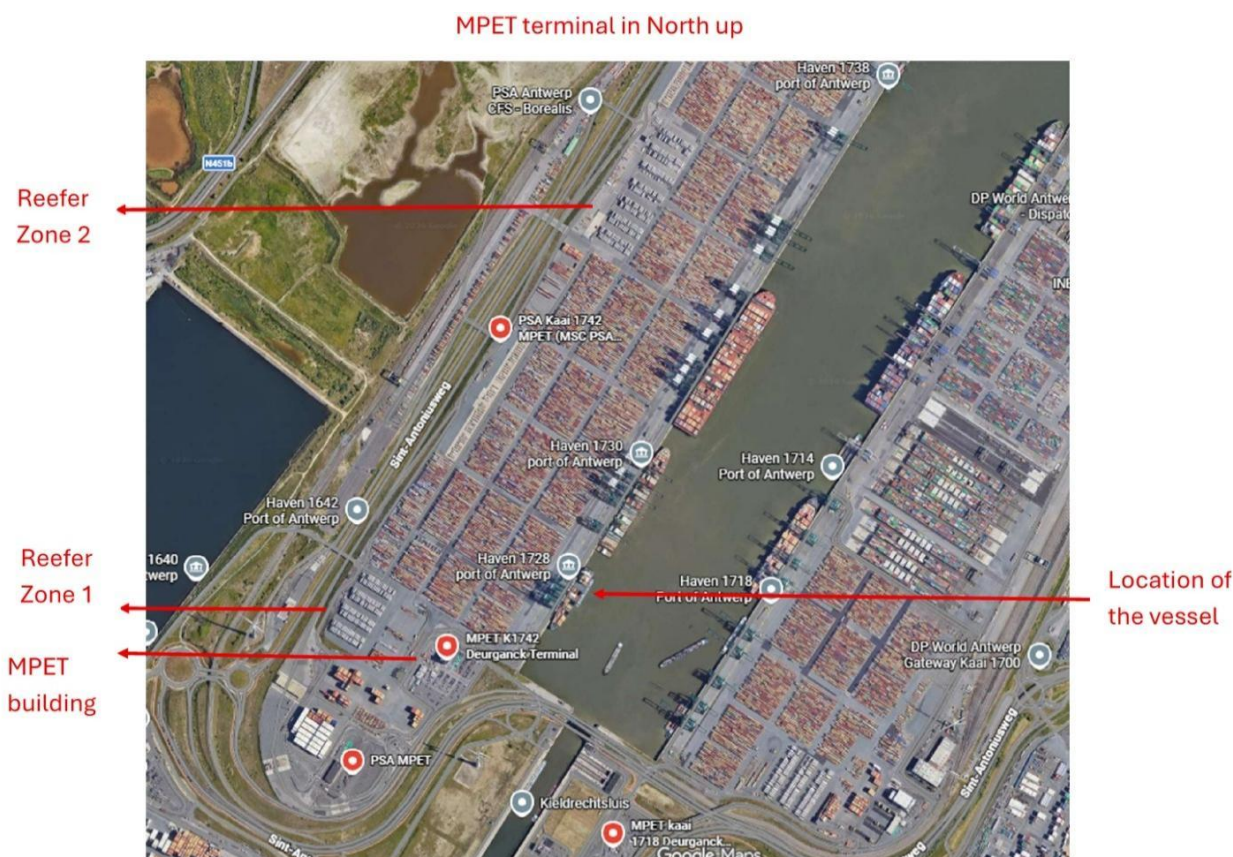
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- **Inhalation** (the most significant route for systemic harm): irritation and coughing progressing to airway swelling, pulmonary oedema, and systemic complications including hypocalcaemia, cardiac arrhythmia and possible death.
- **Ingestion:** spontaneous vomiting, severe metabolic acidosis, hypotension and death have occurred within 90 minutes of ingesting commercial HF-based products.
- **Eye contact:** injury can be delayed, with corneal damage sometimes only apparent several hours after exposure.

Potential location of the containers



According to the information provided by the shipping company, the containers concerned may have been located:

- On board the vessel affected by the incident;
- Near the vessel, awaiting handling;
- In the dry containers stack A, B, C & D;
- In the terminal area identified as Zone 1.

The precise position of each container at the time of the incident is essential when assessing its potential exposure. Based on the information presently available:

- Containers located on board the vessel or in its immediate vicinity must be regarded as potentially affected;
- Containers located in Zone 1 must also be regarded as potentially affected, with lower risk.

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Siège social
Victor Govaerslaan 11, 2170 Antwerpen - Belgium
Tel: +32.3.641.82.00
info@cl-surveys.be

Siège risques internationaux
1 Avenue Franklin D. Roosevelt – 75008 Paris - France
Tel: +33.1.56.89.80.80
international.claims@cl-surveys.com
www.cl-surveys.com

No final conclusion can be reached in respect of an individual container until its exact position, orientation and distance from the source have been confirmed.

Proposed plan for refrigerated containers

1. Reefers are to receive priority because of their temperature-sensitive cargo and the potential for HF-related damage to electrical and refrigeration components, including deterioration that may not be immediately visible.
2. Before opening, MPET proposes to clean the doors, side areas and other relevant handling surfaces. The reefer should remain connected to power throughout, with a temporary power pack available if required.
3. After surface cleaning and verification, seals would be broken and swabs taken from the interior and cargo. Cargo owners and their appointed surveyors should be invited. Cargo with satisfactory results would be transferred into a clean replacement reefer under controlled conditions.
4. The emptied original reefers would remain in Antwerp for further cleaning, technical inspection and monitoring. The latest programme states that operational clearance from FAVV is still awaited before the reefer operation can begin.

Proposed plan for dry containers

1. The shipping company proposes to test every concerned dry container. As MPET cannot ground all laden and empty units, they would move by barge to EDR. Any barge cleaning and related cost remain to be addressed.
2. EDR would sort units into laden or empty, and requiring or not requiring cleaning.
3. Exterior swabs are expected from the left side, right side, doors, front and underside of a corner casting. A satisfactory exterior result would permit opening and cargo swabbing with cargo surveyors invited. Return to MPET would follow only after a satisfactory cargo result; a failed exterior result would require cleaning before opening.
4. Final testing arrangements must be agreed before the results are achieved.

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