

**Security of import containers :
Practical experiences at Benelux terminals
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Risk indexation philosophy based on measurement statistics

EWS has developed a system for risk assessment by using risk indexes. Measuring frequencies are determined according to a risk index per product stream. A product stream is similar to a cargo description including product or article, supplier and country of origin.

The risk indexation system counts 5 indexes, Riskless, Low risk, Estimated no or low risk, Estimated high risk and High risk. As we said the measurement frequencies are based on this system. At the riskless level one out of a lot containers will be measured and at the highest index 100% will be measured.

Measurement strategy

There are three types of measurements:

1. Serial measurement: large amounts on same place at same time
2. Ad-Hoc: one or few containers on clients premises
3. "FYCO", Physical control for customs

For serial measurements Selective Ion Flow Tube mass spectrophotometer (SIFT) is used in combination with sensors for "Light Gases" and LEL.

For Ad Hoc situations and for conformity checks handheld technology is used, examples of those technologies are:

- PID for VOC's
- Infrared (Spectros) only for SulfurylDifluoride
- Sensors (CO, CO₂, O₂, PH₃, LEL)
- Colorimetric test tubes, mainly for Methylbromide + 1,2 Dichloroethane, Benzene, Toluene, Chloropicrine, Styrene, Xylene

EWS uses SIFT technology which enables EWS to analyze eighteen vapors in just 2 minutes and because the technology is used in a mobile way, this could take place at clients location. Mobile Gas labs are equipped with internet connection, therefore it is possible to send immediately a digital measuring report tot the client.

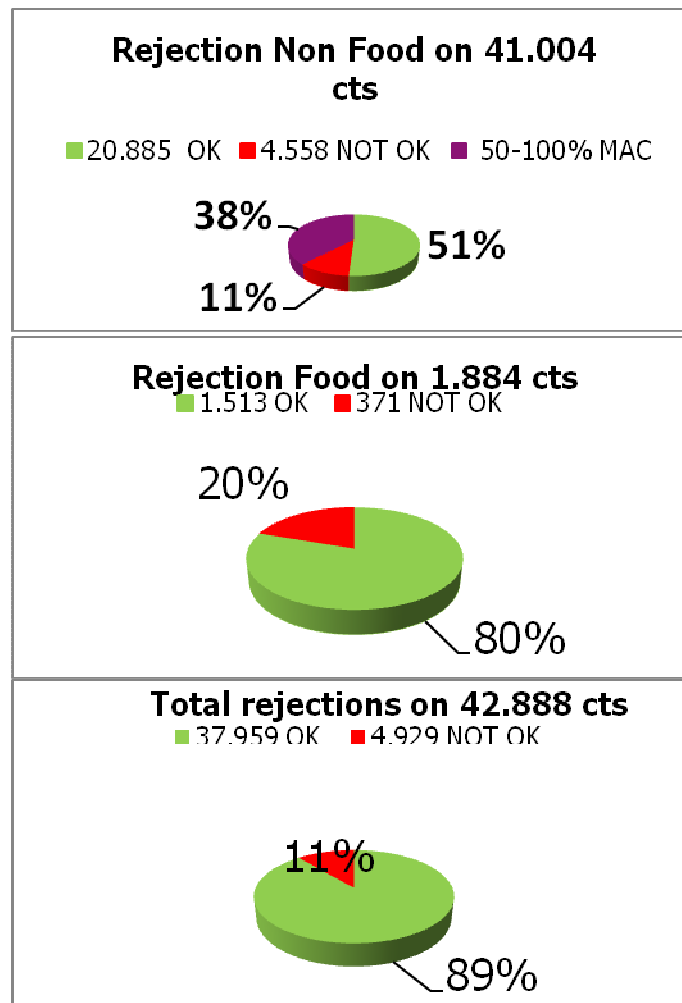
The content of this report includes the results of the measurement of eighteen most common gases and an advice for further procedures.



Results and experiences

During the first ten months of 2010 EWS has measured around 50.000 freight containers. Around 90% of these measurements took place in the main seaport locations, barge and rail terminals in the Netherlands and Belgium. The rest at clients premises or at Customs scanning centra.

The 50.000 measurements enables EWS to say something about the risk of containers in certain sectors. The rejection of Containers containing Non Food products was 11% and the rejection in Food was even higher, 20%. Total rejections were 11%.



The five most common vapors found in the 51.174 containers including the 7.286 re-measurements and release measurements after ventilation are: 1,2 Dichloroethane (1172 times), Carbon monoxide (1168), Formaldehyde (1106), Toluene (990), Benzene (936) but also very dangerous fumigants Phosphine (393) and Methyl bromide (302) were not rare.

There is a relation between type of cargo and rejection parameters. In some cargo the presence of a certain vapor is more likely than in other cargo types. Containers with certain cargo do have a higher rejection rate. For example the rejection rate of containers with shoes is 42% while the rejection rate of containers with electronics is 19% and consumables 17%.