EOM-Press release (2014/05/23)

New global production processes with transport of production parts and goods provide new global health problems

7th Internationalen Workshops „How to handle Import Containers safely" organized by the European Society for Environmental and Occupational Medicine (EOM Society) and International Maritime Health Organisation (IMHA) was held in the venue of the Institute for Occupational medicine, Charitè-University Medicine in Berlin, 2014-May-22-23.

Millions of freight containers, which criss-cross the planet and are disinfected by use of pesticides, can represent a real risk to the health. One of the commonest requirements for containers is to be fumigated using toxic gases, which are dangerous to the health not only of dockers, other port staff and transport workers involved in unloading imported production parts and goods, but presumably also to vulnerable end consumers.

The aims of the workshop were to develop and initiate multidisciplinary based awareness on pesticides and toxic chemicals in global transport and warehousing. Ongoing and pilot studies focusing on related health disorders were demonstrated.

With extremely sensitive measurement and data evaluation methods the quality of the air randomly sampled from 4,000 containers in ports of Hamburg and Rotterdam was measured. It was found that fumigation (or toxic industrial chemicals) now appears to affect almost all containers used in international trade (97%) and that the gases released are far from harmless. The fumigation gases most frequently measured in containers were ethylene dichloride (1,2-dichloroethane) representing almost one–third in Hamburg and nearly half in Rotterdam and methyl bromide (bromomethane) in 22-28%. Nearly one-fifths of containers (19%) had levels of ethylene dichloride exceeding the permitted exposure limits, and just over one-tenth of containers (11%) exceeded the limit for methyl bromide. Several toxic pesticides not registered for container fumigation such as 1,2-dichloropropane (agricultural pesticide) were also found in container atmosphere.
Two additional studies performed in Swedish Ports showed that 5-20 % containers exceeded occupational exposure limits, mainly of various volatile organic compounds (VOC) and less frequently those of common fumigants.

And there is worse to come, these fumigants and the other toxic substances present within the container air, such as VOCs like benzene, ethyl benzene, methyl chloride, tetrachloromethane, and toluene, also contaminate the transported

goods, penetrating into them and settling there. They may have a half-life of several days or even months, and thus represent an additional threat.
Ongoing studies aim to evaluate extend and consequences from the products or packing material off gassing processes, since indeed, recent results show that also products were contaminated with both fumigants and other chemicals.
What is more, there were no warning signs on nearly all of the containers (<3%).

The health consequences of these substances are evident. In addition to potentially causing skin irritation, they can irritate the respiratory tract, they can cause asthma attacks, lung edema, central and peripheral nervous disorders. The risks arising from cumulative exposures must also be taken into account. These health hazards are especially relevant for port and transport workers, regularly in contact with these gases, of which some are suspected or clear-cut carcinogens (ethylene dichloride, methyl bromide and benzene). A questionnaire Fum-Ex2 (available in English, French and German), as well as clinical and analytical diagnostic schemes were presented.

Nearly every manufacturing company is receiving now-a-days production parts or raw materials from third countries, so that intoxicated could not only be those in contact with classical “goods” or “”products, but nearly everyone working or by-standing, especially in small and medium size companies.

We insist that measuring levels of fumigation gases is not enough, and that monitoring must be extended to all other toxic substances. In the meantime, lessons must be learned from the presented studies, especially since the fumigants are often colourless and odourless, and dangerous even at low concentrations. **Further details and results will be shown in meeting reports.**

The speakers from: Germany, Norway, Denmark, Sweden, the Netherlands, France, Italy, USA, China, South Korea, United Arab Emirates are either scientists, environmental/ occupational practitioner or professionals dealing with the problem on every day basis. The members of the working groups of the World Health Organization based Collaborating Centers on Occupational Health were also among the speakers including transport group members (leader Prof. Dr. L.T. Budnik, Hamburg, Germany) and agriculture group members (leader: Prof. Dr. C. Colosio, Milano, Italy) focusing on “ New chemical health risks in transportation and warehousing of cargo due to the process of globalization”.

Due to the commercialization and increasing interests from various lobbying groups in this sector elsewhere, this workshop has no commercial sponsorship. All speakers have signed the “Conflict of interests” statement, there was a strict separation between the advertizing and scientific parts following the WHO and the Charité rules.

More information at: www.EomSociety.org

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