

Russian EDN timber study

Executive summary

As a part of the EDN registration process in Russia, a timber fumigation study was conducted on December 2018 by Novorossiysk branch of the Russian fumigation group, Moscow at Apcharovsk, Krasodar Krai. Both hard and softwood (oak and pine) were placed on the concrete surface and fumigated in a 50 m³ hermetically sealed tarp. The edge of the tarp was covered with a sand snake. A dose rate of 50 g/m³ was applied for 8 hours treatment period. In total, 2.5 kg of the product was applied. The product was applied based on the change of cylinder weight placed above an industrial grade scale. A 15 m buffer zone was followed around the treatment tarp.

MSA Ultima XA safety detector was used to measure the atmospheric EDN concentration during application, treatment and ventilation period in the North, East, West and South at 5, 15, 100 and 200 m from the edge of the tarp. Additional sampling was taken at 3 m from the tarp immediately after ventilation. A Rikken FI-8000 instrument was used to measure the EDN concentration inside the tarp. Temperature and wind speed were also recorded.

Immediately after application, the EDN concentration inside the tarp was 50 g/ m³ which declined to 8 g/ m³ at the end of 8 hours fumigation. The remaining EDN concentration at the end of the treatment time was safely ventilated into the atmosphere. During the EDN treatment period, no EDN was detected in any direction from the tarp. However, at 3 m immediately after the ventilation, more than 10 ppm was detected in the downwind direction for the first 15 minutes. The concentration declined to 4 ppm after 30 minutes and 0 ppm after 1 hour. During this period, no EDN was detected at 5, 15, 100 and 200 m from the tarp both up and downwind direction. Although no EDN was found at 5 m from the tarp, a 15 m buffer zone would be safe to protect bystanders and non-target organisms.