

## BiOWiSH® Odor

### BiOWiSH® Helps Lower the Concentration of Noxious VOC at LG Chem Petrochemical Site in South Korea

#### Background

LG Chem the largest chemical company in Korea, was facing issues with odor and poor working conditions for on-site operators. These issues stemmed from odorous gases generated from their wastewater treatment facility. In line with their environmental responsibility policy, and looking to improve working conditions for all operations, LG Chem implemented BiOWiSH® Odor natural solutions at their waste treatment site.

#### Problem

High levels of hydrogen sulfide (H<sub>2</sub>S), ammonia (NH<sub>3</sub>), volatile organic compounds (VOC), mercaptans (RSH), and total hydrocarbons (TC) in areas surrounding the wastewater treatment facilities led to continuing strong odors.

#### Solution

BiOWiSH's local partner in South Korea, ACE Solutions, proposed a 6-week trial using BiOWiSH® Odor to reduce noxious gas concentrations on site. BiOWiSH® Odor works cooperatively with the existing microbiome, breaking down VOCs into their final inert, odorless compounds.

#### Dosing and Monitoring

BiOWiSH® Odor was applied at different locations. Both drip dosing and mist fogging were used to maximize contact. A dosing concentration of 0.5 ppm (based on total operational wastewater flow) was applied upstream of the regenerative thermal oxidizer (RTO) process. Various gas concentrations were monitored around the RTO unit using the Multi-RAE self priming tester and GASTEC-GV100 Gas Detection.

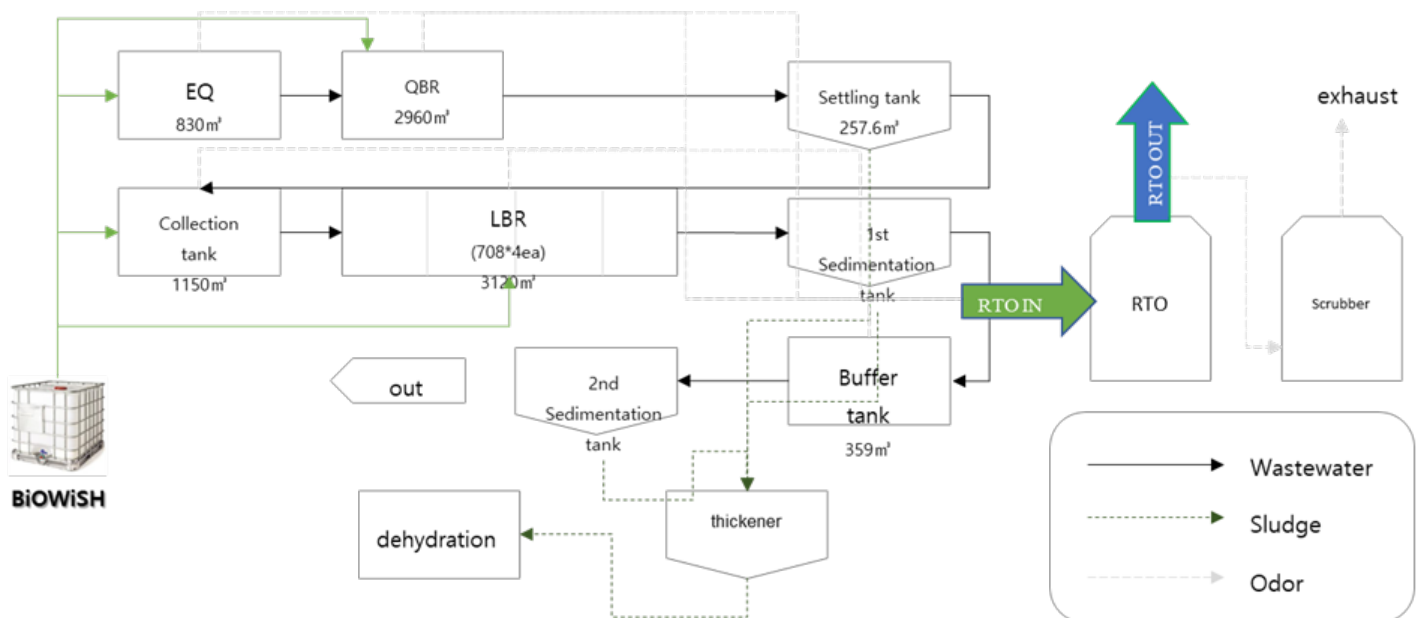
#### BiOWiSH® Odor



- Removes rather than masks odors
- Fast acting
- Effective on a wide range of volatile organic compounds (VOC)
- Cost effective
- Operative at low dosage rates
- Long residual effective period
- Natural and non-toxic

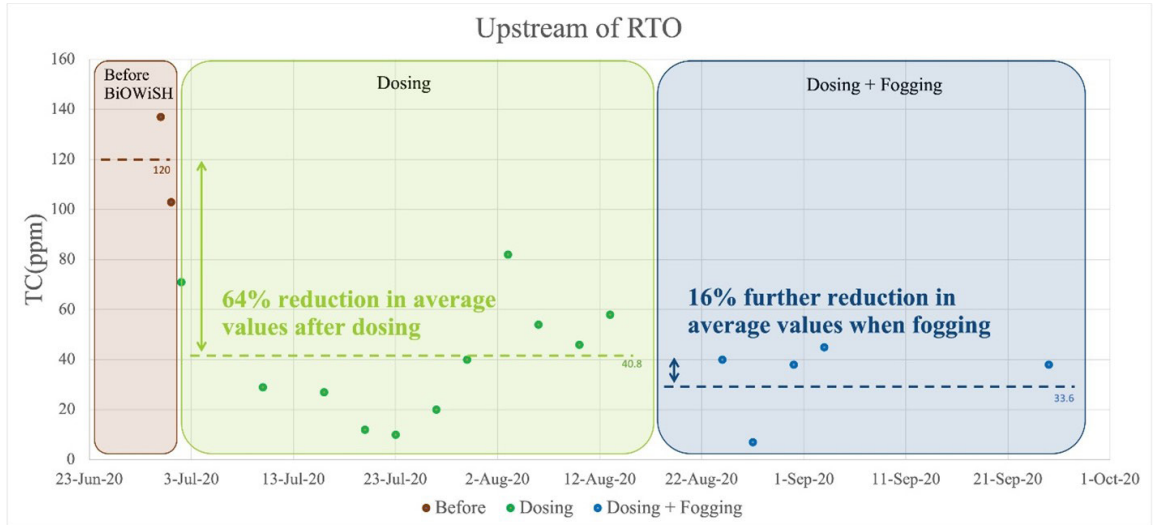
#### Available Sizes

- 100 g/3.5 oz
- 1 kg/2.2 lbs
- 5 kg/11 lbs
- 10 kg/22 lbs

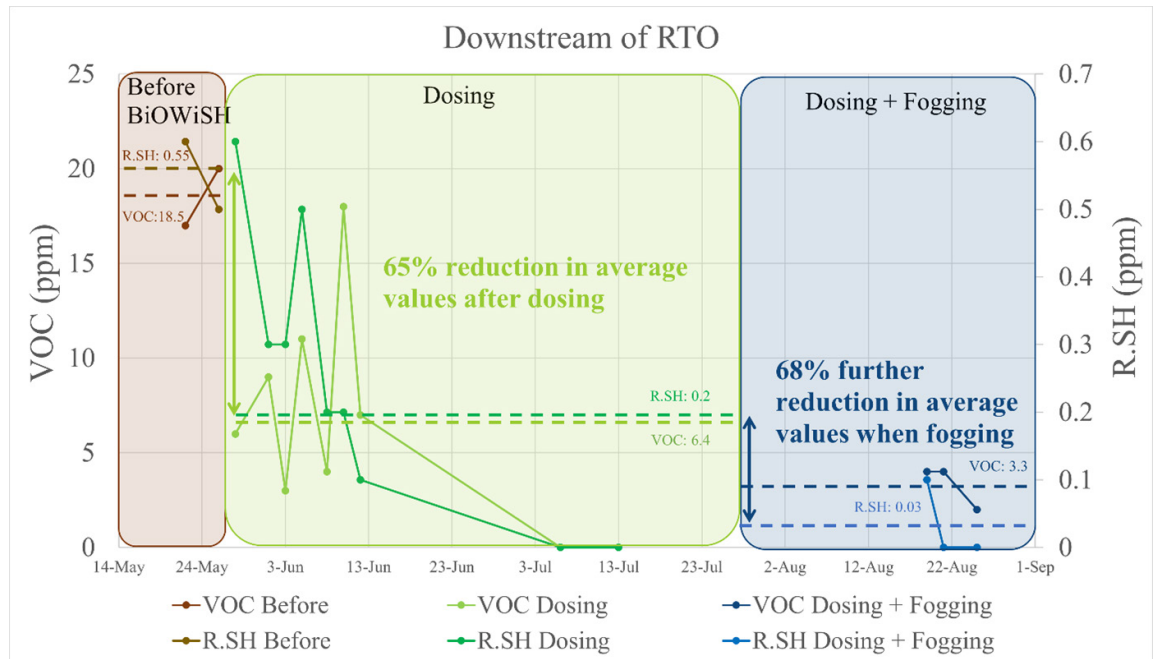


## Results

Data collected showed that BiOWiSH® Odor reduced TC concentrations by 64% compared to baseline levels prior to dosing. There was an additional 16% reduction when Dosing+Fogging was used.



BiOWiSH® also eliminated 65% of VOC and R.SH through dosing. An additional 68% of VOC and R.SH were eliminated through Dosing+Fogging. No H<sub>2</sub>S or NH<sub>3</sub> was detected after application of BiOWiSH® Odor.



## Conclusion

Measurable reductions in the concentration of various noxious gases were achieved by using BiOWiSH® Odor biological treatment, without the need for additional CapEx or modifications.

LG Chem process engineers will continue to use BiOWiSH® Odor and will aim to optimize dosing locations and concentrations to maximize odor abatement effects across all units.



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