



**umicore**

Fuel Cell & Stationary Catalysts

**DNX<sup>®</sup>**

**SCR catalysts**

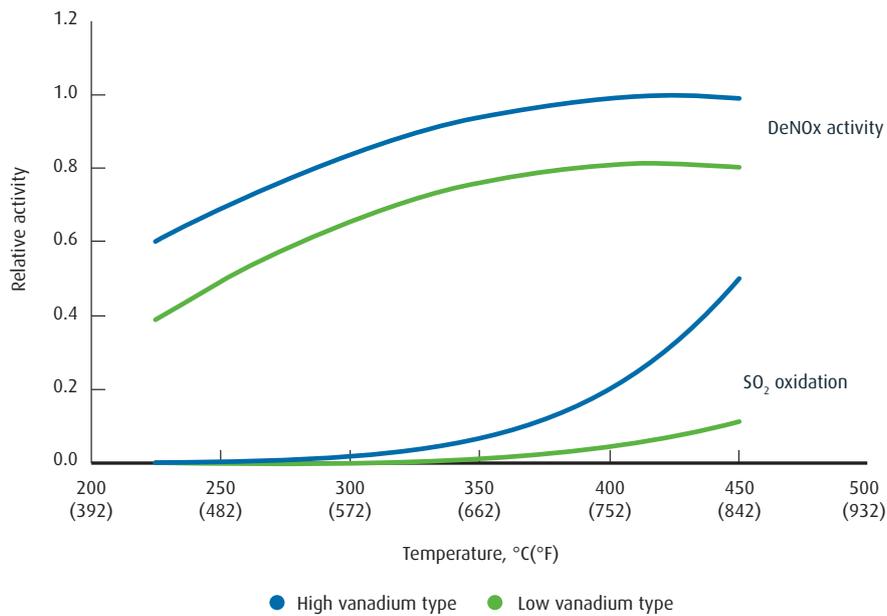
**For minimizing SO<sub>2</sub> oxidation**

### **Get a grip on SO<sub>2</sub> oxidation**

Tri-modal pore structure prevents ABS fouling and unwanted stack plumes

SO<sub>3</sub> resulting from SO<sub>2</sub> oxidation, either during combustion or during catalysis, is bad news for any plant, as it can lead to ABS fouling and visible blue plumes from the stack. Umicore DNX<sup>®</sup> SCR catalysts can minimize SO<sub>2</sub> oxidation to just 0.1%.

The DNX<sup>®</sup> is different from other SCR catalysts in that it features a DeNOx activity-boosting tri-modal pore structure that also minimizes oxidation of SO<sub>2</sub> into SO<sub>3</sub>. Large macro-pores draw the reactants into the catalyst interior, where meso-pores and micro-pores greatly enhance access to active sites, while keeping SO<sub>2</sub> oxidation to a bare minimum. The result is less ABS fouling of downstream equipment and an end to undesired stack plumes.



### Protect downstream equipment from ABS fouling

When processing gases that contain sulfur, nearly all sulfur is converted into SO<sub>2</sub>. However, a small fraction of the SO<sub>2</sub> is subsequently oxidized into SO<sub>3</sub>. When the SO<sub>3</sub> reacts with residual ammonia, ammonia bisulfate (ABS) is formed and can foul downstream equipment. The special pore structure of the DNX<sup>®</sup> catalyst minimizes this process, protecting the equipment without sacrificing high NO<sub>x</sub> removal.

### Avoid unwanted stack plumes

In addition to reacting with ammonia to form ABS, SO<sub>3</sub> can react with water vapor as flue gas cools and form sulfuric acid mist. Since this mist cannot be removed in most setups, it ends up in the stack as a visible blue plume. By keeping SO<sub>2</sub> oxidation to as little as 0.1%, the DNX<sup>®</sup> can prevent this from occurring.



#### Benefits

- Customized catalysts for SO<sub>2</sub> oxidation down to 0.1%
- Minimize downstream equipment from ABS fouling
- Avoid unwanted stack plumes caused by sulfuric acid mist
- No need to choose between high performance and low oxidation