

## SO<sub>2</sub>Clean<sup>®</sup>

**SO<sub>2</sub>Clean<sup>®</sup> is a proprietary process for producing on-purpose sulfur dioxide (SO<sub>2</sub>). SO<sub>2</sub> is a chemical compound used in water treatment, cyanide destruction, and surfactant manufacturing. It's also a reducing agent and a food preservative.**

The conventional method for manufacturing SO<sub>2</sub> is to burn sulfur using ambient air. Instead, INEOS Calabrian reacts sulfur with pure oxygen. Since pure oxygen is more sterile than ambient air, the SO<sub>2</sub>Clean<sup>®</sup> process results in ultra-pure SO<sub>2</sub>.

### ULTRA-PURE SO<sub>2</sub> WITH A LOWER ENVIRONMENTAL IMPACT

The SO<sub>2</sub>Clean<sup>®</sup> process yields superior quality SO<sub>2</sub> with a low environmental footprint. The efficiency of the SO<sub>2</sub>Clean<sup>®</sup> process helps companies meet rising corporate responsibility and sustainability targets.

Using the SO<sub>2</sub>Clean<sup>®</sup> process, INEOS Calabrian produces ultra-pure SO<sub>2</sub> without unnecessary byproducts. Benefits include:

**No process wastewater**, so nothing is discharged into waterways

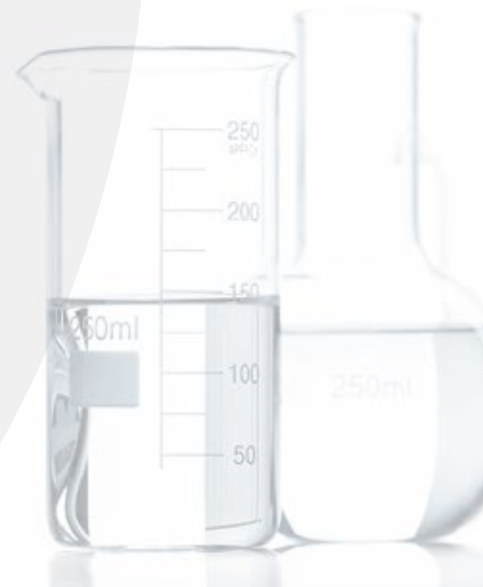
**No NO<sub>x</sub>** due to nitrogen elimination

**No SO<sub>3</sub>** from excess oxygen

**No byproducts** that could become waste or limit production

**Low acidity** compared to conventional processes

**Lower dependency** on co-products, like sulfuric acid, SO<sub>3</sub> and ABS



**A Safe and Secure SO<sub>2</sub> Solution.** INEOS Calabrian is the leading North American manufacturer of on-purpose SO<sub>2</sub>. Its proprietary SO<sub>2</sub>Clean<sup>®</sup> process has been successfully and safely applied at Port Neches, Texas, and Timmins, Ontario, for more than three decades.

As a global company with multiple manufacturing sites and reactor trains, INEOS Calabrian can ensure continuity of your supply. **Contact INEOS Calabrian to discuss your SO<sub>2</sub> requirements or to explore on-site production, logistical or infrastructure challenges.**

# APPLICATIONS FOR ULTRA-PURE SO<sub>2</sub>

## Applications include:

### Food, Beverage and Pharmaceutical

bleaching agent and desiccant; able to meet or exceed food-grade standards and Kosher and Food Sanitation Foundation certifications

### Water Treatment

oxygen scavenger and reducing agent for bichromate and chromium waste treatments

### Mining and Metallurgy

cyanide destruction; mining iodine, gold, cobalt, manganese, copper, silver and nickel

### Pulp and Paper

bleaching agent; chlorine removal; sulfite mill fortification; sulfite and bisulfite preparation

### Oil and Gas

polar solvent; natural gas and oil desulfurization; sulfone and sulfolane preparation

### Personal Care

diluent and surfactant

### Other

glass, automotive, lithium battery recycling

Because SO<sub>2</sub> created by INEOS Calabrian is so pure, its derivatives – sodium bisulfite, sodium thiosulfate and sodium metabisulfite – meet or exceed quality standards across a range of industries.

Imagine what INEOS Calabrian's ultra-pure SO<sub>2</sub> can do for you.

**Part of something bigger.** INEOS is a global manufacturer of petrochemicals, specialty chemicals, and oil products. In fact, it's one of the top five chemical companies based on revenue, and one of the world's 50 biggest companies overall. INEOS businesses, like INEOS Calabrian, create raw materials that are used to advance nearly every aspect of modern life.



**Responsible Care®**  
Good Chemistry at Work

## INEOS BY THE NUMBERS

0

INEOS CALABRIAN MAKES SO<sub>2</sub> WITH ZERO NITROGEN OXIDE, SULFUR TRIOXIDE, OR WASTEWATER



50

ONE OF THE WORLD'S 50 LARGEST COMPANIES OVERALL\*



\$61B+

OVER \$61 BILLION IN ANNUAL SALES\*



183

INEOS HAS 183 MANUFACTURING SITES ACROSS 26 COUNTRIES\*



\*Based on 2019 data

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