

Sulfur Dioxide

(SO₂)



Sulfur dioxide (SO₂) is a chemical compound used in water treatment, cyanide destruction, and surfactant manufacturing. It's also a reducing agent and a food preservative.

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

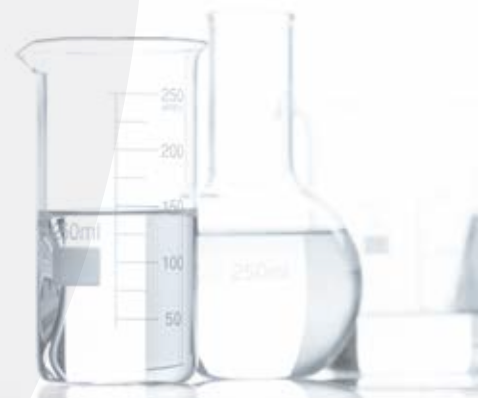
diluent and surfactant

Other

glass, automotive, lithium battery recycling

Because SO₂ 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 SO₂ can do for you.



SO₂CLEAN®: MORE EFFECTIVE, PLUS A LOW ENVIRONMENTAL FOOTPRINT

INEOS Calabrian is the leading North American manufacturer of on-purpose sulfur dioxide. Its proprietary SO₂Clean® process has been successfully and safely applied for more than three decades.

The conventional method for manufacturing SO₂ is to burn sulfur using ambient air. INEOS Calabrian reacts sulfur with pure oxygen, resulting in ultra-pure SO₂.

The SO₂Clean® process has a low environmental footprint, which helps companies meet rising corporate responsibility and sustainability targets. Neither nitrogen oxides nor sulfur trioxides are produced during the process, and there is no process wastewater.

SO₂ | A SAFE AND PROVEN SOLUTION FOR THE MINING INDUSTRY



The Benefits of SO₂ in Cyanide Destruction

Mine operators must thoroughly remove cyanide before tailings can be released into the environment. Compared to alternative cyanide destruction methods, SO₂ offers a simple, safe, and economical way for mining companies to meet strict environmental and legislative requirements.

Operational Simplicity

Using pure, liquefied SO₂ for cyanide destruction is relatively simple. SO₂, oxygen, and water react with cyanide ions, oxidizing them into less toxic cyanates. SO₂ is the most efficient reagent used to reach the International Cyanide Code standards for cyanide destruction.

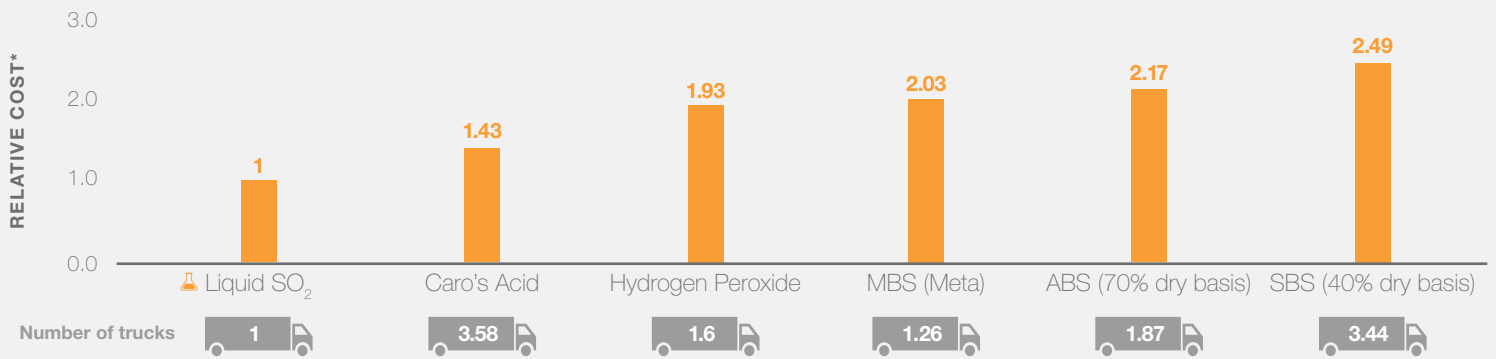
Demonstrated Reliability and Safety

Liquefied SO₂ is proven to be both reliable and safe. Because cyanide destruction with SO₂ is efficient, mine operators consume less SO₂ compared to alternative cyanide destruction methods. As a result, lower volumes of chemicals are transported, stored, and handled on your site.

More Economical

Cyanide destruction is a significant operating expense, but SO₂ can help mine operators protect their margins. Using liquefied SO₂ for cyanide detoxification is less expensive than other methods due to its effectiveness. Reagent, warehouse, tankage, manpower, and freight costs are all lower when you use SO₂.

Comparing the Costs



*Relative costs include reagent costs, freight, distribution, and fixed costs and are on a North American cost basis.

**Source: Botz, M.M., "Overview of Cyanide Treatment Methods," Mining Environmental Management, Mining Journal Ltd., London, UK

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 SO₂ 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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