INEOS Calabrian

Safety Data Sheet

SULFUR DIOXIDE

Section 1 - Product and Company Identification					
Product Name:	Sulfur Dioxide				
Chemical Formula	SO2				
CAS Number:	007446-09-5				
General Use:	Chemical feedstock, food preservative, fumigating pesticide.				
Other Designations:	Sulfurous acid anhydride, sulfurous anhydride, sulfurous oxide.				
Manufacturer:	INEOS Calabrian Corporation 375 Hallnor Rd. Porcupine, ON P0N 1C0				
Telephone:	705-235-3134	**Fax:**	409-727-5803	**Emergency Contact:**	Quantum Murray 1-647-777-3567

Section 2 – Hazard Identification		
GHS Classification	Gases under pressure (Liquefied Gas) Acute Toxicity, Inhalation (Category 3) Skin Corrosion (Category 1B) Serious Eye Damage (Category 1)	**Hazard Statement** **H280** – Contains gas under pressure; may explode if heated. **H314** – Causes severe skin burns and eye damage. **H331** – Toxic if inhaled.
Symbol(s): 	**Signal Word:** **DANGER**	

NFPA Rating	**Precautionary Statement**	
Health Hazard – 3 Fire – 0 Reactivity – 0	**P260**	Do not breathe gas
	P261	Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
	P264	Wash skin thoroughly after handling
	P271	Use only outdoors or in a well-ventilated area.
	P280	Wear Protective gloves/ protective clothing/ eye protection/ face protection.
	P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
	P303 + P361 + P353	IF ON SKIN (or Hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
	P304 + P340 + P310	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
	P305 + P351 + P338 + P310	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
	P363	Wash contaminated clothing before reuse.
	P403 + P233	Store in well ventilated place. Keep container tightly closed.
	P405	Store locked up.

	P410 + P403	Protect from sunlight. Store in a well-ventilated place.
	P501	Dispose of contents/ container to an approved waste disposal plant.
Other Hazards	Sulfur dioxide is a liquid under pressure.	

Section 3 – Composition / Information on Ingredients

Composition	**CAS Number**	**% Wt**
Sulfur Dioxide	007446-09-5	100
Ingredient	**CAS Number**	**% Wt**
Sulfur	007704-34-09	50
Oxygen	007782-44-7	50

Section 4 – First Aid Measures

General Advice:	Consult a physician. Show this material safety data sheet to the doctor in attendance. Move out of dangerous area.
Inhalation:	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
Eye:	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.
Skin:	Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.
Ingested:	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11	

Section 5 - Fire-Fighting Measures

Flash Point:	N/A	**Flammability Classification:**	Not Flammable
Flash Point Method:	N/A	**UEL:**	N/A
Burning Rate:	N/A	**LEL:**	N/A
Auto Ignition Temperature:	N/A		

Extinguishing Media:	Use extinguishing agent appropriate for surrounding fire conditions.
Unusual Fire or Explosion Hazards:	None Indicated
Hazardous Combustion Product:	May release hazardous gas.
Fire-Fighting Instructions:	Do not release runoff from fire control methods to sewers or waterways.

Fire-Fighting Equipment:	Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full-face piece operated in pressure-demand or positive-pressure mode.

Section 6 – Accidental Measures

Spill / Leak Procedures	Wear appropriate PPE - See Section 8
Small Spills / Leaks	Spills can be neutralized with an alkaline material such as caustic soda. Leaks may be located by spraying the area with ammonium hydroxide solution which forms a white fume in the presence of sulfur dioxide.
Large Spills / Leaks	Large spills should be handled according to a predetermined plan. Reduce vapor with fog or fine water spray
Containment	For large spills, dike far ahead of contaminated runoff for later disposal.

Section 7 - Handling and Storage

Handling Precautions:	Avoid contact with product
Storage Requirements:	Avoid heat or moisture. Store in properly designed pressure vessels, away from heat and protected from physical damage. Segregate from combustible materials.

Section 8 - Exposure Controls / Personal Protection:

Component: SULFUR DIOXIDE			**CAS Number:**		007446-09-5		
ACGIH (TLV)		**OSHA (PEL)**			**NIOSH (REL)**		
STEL	0.25 ppm, 15 Minutes	**TWA**	5 ppm, 8 Hours	**TWA**	2 ppm, 10 hours	**STEL**	5 ppm, 15 min.
		TWA	13 mg/m³, 8 hours	**TWA**	5 mg/m³, 10 hours	**STEL**	13 mg/m³, 15 min.
IDLH-	100 ppm	**Engineering Controls:** Provide general or local exhaust ventilation systems to maintain airborne concentrations below safe exposure limits as stated above. Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at the source.		**Respiratory Protection:** Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a MSHA/NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for give working conditions, level of airborne contamination, and presence of sufficient oxygen. For emergency or non-routine operations (cleaning spills, reactor vessels, or storage tanks), wear an SCBA. Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.		
IDLH - Immediately Dangerous to Life or Health **PEL** – Permissible Exposure Limit **REL** – Recommended Exposure Limit TLV – Threshold Limit Value							

ACGIH – American Conference of Governmental Industrial Hygienists **TWA** – Time Weighted Average based on 8 hour exposure days and a 40 hour week.		
Protective Clothing / Equipment: Wear protective gloves, boots, and clothing to prevent prolonged or repeated skin contact. Wear protective eyeglasses or goggles, per OSHA eye and face protection regulations (29 CFR 1910.133).	**Safety Stations:** Make emergency eyewash stations, showers, and washing facilities available in the work area	**Contaminated Equipment:** Separate contaminated work clothes from street clothes. Remove this material from shoes and clean personal protective equipment. **Comments:** Do not eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before food or beverage consumption.

Section 9 - Physical and Chemical Properties

Physical State:	Liquid / Gas	**Water Solubility:**	11g/100g H20 NA
Appearance:	Colorless	**Other Solubility:**	
Odor Threshold:	0.5 ppm;	**Boiling Point:**	14° F
Vapor Density (Air=1):	2.26	**Freezing Point:**	-104° F
Vapor Pressure:	2432 mm HG @ 68° F	**Melting Point:**	-98.9° F
Density:	N/A	**Evaporation Rate:**	Rapid
Specific Gravity (H2O=1):	1.434	**pH:**	Acidic
Molecular Weight:	64.07	**% Volatile**	N/A

Section 10 - Stability & Reactivity

Stability:	Stable under normal conditions.
Polymerization:	Hazardous polymerization will not occur.
Chemical Incompatibilities:	Contact with powdered potassium, sodium metal oxidizing agents produce violent reactions. Reacts with water and steam to form corrosive sulfurous acid. Reacts with chlorates to form unstable chlorine dioxide.
Conditions to Avoid:	Avoid excessive heat, or open flame.
Hazardous Decomposition Products:	May release hazardous gas.

Section 11 - Toxicological Information			
Eye Effects (rabbit):	Mild (6 ppm/4H/32D)	**Acute Inhalation Effects (rat):**	LC50=2520 ppm (1H0
Skin Effects (rabbit):	Not available	**Acute Oral Effects (rat):**	Not available
Carcinogenicity:	IARC, NTP, and OSHA do not list Sulfur Dioxide as a carcinogen.		
Chronic Effects:	Prolonged or repeated exposure may cause inflammation of the lining of the nose, dry throat and cough. Respiratory tract symptoms have been observed similar to changes observed in human chronic bronchitis.		

Section 12 - Ecological Information	
Ecotoxicity:	Sulfur Dioxide is a poisonous gas commonly used as a fumigant pesticide. Concentrations above 1 ppm are believed to be injurious to plant foliage.
Environmental Transport:	Airborne gas
Environmental Degradation:	Rapid evaporation.
Soil Absorption/Mobility:	Slight.

Section 13 - Disposal Considerations			
Disposal:	Waste determinations typically consider Sodium Metabisulfite contaminated to be non-hazardous.	**Container Cleaning and Disposal:**	Follow applicable Federal, state and local regulations.

Section 14 - Transport Information	
Shipping Name:	Sulfur Dioxide
Shipping Symbols:	
Hazard Class:	2.3
Subsidiary Hazard:	8
ID No. (Placard):	UN 1079
Packing Group:	N/A
Label:	Poison Gas
EPA Reportable Quantity (RQ):	500 pounds

Section 15 - Regulatory Information			
EPA Regulations:			
RCRA Hazardous Waste Classification (40 CFR 261):	D002.	***FIFRA:***	Regulated when used as a pesticide
CERCLA Hazardous Substance (40 CFR 302.4):	Not Listed	***SARA Title III:***	Section 302/304/311/312 Extremely Hazardous Substance: sulfur dioxide, 500 TPQ Section 302/304 Emergency Planning and Notification: sulfur dioxide, 500 RQ
CERCLA Reportable Quantity (RQ):	Not Listed		
OSHA Regulations: Air Contaminant (29 CFR 1910.1000): Listed without ceiling or skin designation**.**			
OSHA Specifically Regulated Substance:	: List of Highly Hazardous Chemicals TQ=1000 lb		
Other Regulations:	FDA: Regulated when used as a food preservative. Proposition 65 (California): Listed as a reproductive toxicant. Canada: WHMIS A - Compressed gas D1A - Causing immediate and serious toxic effects E - Corrosive material CEPA Listed in Canadian Environmental Protection Administration Toxic Substance List. NPRI Listed in Canadian National Pollutant Release Inventory		
Canada			
WHMIS	A – Compressed Gas		
	D1A – Causing immediate and serious toxic effects		
	E – Corrosive material		
CEPA	Listed in Canadian Environmental Protection Administration Toxic Substance List.		
NPRI	Listed in Canadian National Pollutant Release Inventory		

Section 16 - Other Information	
This product is NSF certified to NSF/ANSI Standard 60 and is subject to maximum use limit (MUL) of 10 mg/L for potable water dechlorination application	
Previous SDS issue date:	September 23, 2021
Current SDS issue date:	September 28, 2021
Reason for current revision	Format Update
The information herein is believed to be reliable. However, no warranty, expressed or implied, is made as to its accuracy or completeness and none is made as to the fitness of this material for any purpose. The manufacturer shall not be liable for damages to person or property resulting from its use. Nothing herein shall be construed as a recommendation for use in violation of any patent.	