

**GELEST, INC.**

11 East Steel Rd. Morrisville, PA 19067  
Phone: (215) 547-1015

MATERIAL SAFETY  
DATA SHEET

EMERGENCY TELEPHONE  
CHEMTREC: 1-800-424-9300

NAME USED ON LABEL: **GERMANIUM DISELENIDE - GEG5350**  
CHEMICAL NAME: GERMANIUM DISELENIDE  
SYNONYMS: GERMANIUM IV SELENIDE  
CHEMICAL FAMILY: METAL SELENIDE  
FORMULA: GeSe<sub>2</sub>

HMIS CODES HEALTH: 4 FLAMMABILITY: 0 REACTIVITY: 0

**INGREDIENTS**

IDENTITY	CAS NO.	%	TLV	OSHA PEL
GERMANIUM DISELENIDE	12065-11-1	>98 (OSHA PEL (selenium): 0.2mg/m <sup>3</sup> )		not established

**PHYSICAL DATA**

Boiling Point: NA	Melting Point: 704-710°C
Specific Gravity: 4.56	Vapor Pressure: not determined
Vapor Density: NA	Solubility in water: insoluble
% volatiles: 0	Evaporation rate: NA
Molecular Weight: 230.51	Other: NA
Appearance & Color: Orange granules	

**FIRE & EXPLOSION DATA**

Flash Point, COC: Not Flammable Autoignition Temp.: not ignitable  
Flammability Limits- LEL: NA UEL: NA

Extinguishing Media: N/A

Special Fire Fighting Procedures: Avoid eye and skin contact. Do not breathe fumes or inhale vapors.

Unusual Fire and Explosion Hazards: Irritating fumes vapors may develop when material is mixed with other materials and exposed to elevated temperatures or open flame.

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## ENVIRONMENTAL INFORMATION

Spill response: May be hazardous to aquatic life if released to open waters. Sweep material while wearing a dust mask. Transfer to a suitable container for disposal.

Recommended Disposal: Dispose of as solid waste. Follow all chemical pollution control regulations. Large quantities may be recycled by return to the Gelest, the manufacturer.

## HEALTH HAZARD DATA

Eye Contact: May cause irritation or conjunctivitis by dissolving to form germanic acid, a weak acid.

Skin contact: May cause contact dermatitis.

Inhalation: Inhalation of particulates of will irritate the respiratory tract. Overexposure may produce coughing, headache and nausea. While no specific information is known, garlic odor of breath is a common symptom of exposure to selenium compounds.

Toxicity: In general, selenium compounds are poison by inhalation and intravenous routes. Some selenium are experimental carcinogens.

Oral Toxicity: not determined

Chronic Toxicity: No specific information has been reported for this compound. Inhalation- Animal studies of germanium compounds indicate morphological changes of the respiratory tract such as thickening of the alveolar partitions and hyperplasia of the lymphatic vessels around the bronchi and blood vessels. Ingestion- Rats fed 100ppm for 14 weeks showed stimulated growth. Those fed 1000ppm showed depressed growth and suffered 50% mortality. Kidney damage has been reported in humans and animals. For selenium compounds, pallor, nervousness, depression and death have been reported for chronic exposure.

## SUGGESTED FIRST AID

EYES: In case of contact, immediately flush eyes with flowing water for at least 15 minutes. Get medical attention.

SKIN: Flush with water, then wash with soap and water.

INHALATION: Move exposed individual to fresh air. Call a physician.

INGESTION: Never give fluids or induce vomiting if patient is unconscious or having convulsions. Get medical attention.

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## REACTIVITY DATA

Stability: Stable At temperatures >400°C in air oxidizes to germanium dioxide and selenium.  
Incompatibility (materials to avoid): Compatible with most materials Dissolves in strong acid or base.  
Hazardous decomposition products: Selenium, selenides, germanium oxides.

## SPECIAL PROTECTION INFORMATION

Ventilation: Local exhaust is required. Mechanical is recommended.  
Respiratory Protection: If exposure exceeds TLV, dust mask or air-supplied respirator.  
Eye and Face Protection: Chemical worker's goggles. Do not wear contact lenses.  
Other Clothing and Equipment: Rubber, neoprene or nitrile gloves. An eyewash and emergency shower should be available. Launder clothing before reuse.

## OTHER PRECAUTIONS

For research and industrial use only.  
Storage and Handling: Store in sealed containers.

## TRANSPORTATION

DOT SHIPPING NAME: SELENIUM COMPOUND, N.O.S.  
(GERMANIUM DISELENIDE)  
DOT HAZARD CLASS: 6.1  
DOT LABEL: TOXIC  
DOT ID No: UN3283

PG: II

Prepared by safety and environmental affairs      ISSUE DATE GEG5350: 2/21/06  
SUPERSEDES: 7/21/03

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