

MATERIAL SAFETY DATA SHEET

Section 1. Company Identification and Product Information			
Product Name or Identity:	GeneQuence™ <i>Salmonella</i> Test		
Manufacturer's Name:	Neogen Corporation	Emergency Phone No.:	517/372-9200
	620 Leshar Place	Fax No.:	517/372-0108
	Lansing, MI 48912	e-mail:	foodsafety@neogen.com
Date Prepared or Revised: April 2015		Chemtrec: (800) 424-9300	
		Outside US and Canada: (703) 527-3887	

Section 2. Composition / Information on Hazardous Ingredients			
This product is a mixture of the substances listed below with the addition of nonhazardous materials.			
Hazardous Components Specific Chemical Identity:	CAS-No.	%	Hazard Symbol
Formamide (Hybridization Solution)	75-12-7	>99%	Xi (Irritant)
Proteinase K (Lysis Reagent)	39450-01-6	N/A	Xi (Irritant)
Sulfuric Acid (Stop Solution)	7664-93-9	11%	T (Toxic), C (Corrosive)

Section 3. Health Hazard Identification	
Health Hazards: <i>(Acute and Chronic)</i>	Information pertaining to particular dangers for man and environment. R 60 / 61 May impair fertility. May cause harm to the unborn child. R 20 Harmful by inhalation R 36 / 37 38 Irritating to eyes, respiratory system and skin. R 42 / 43 May cause sensitization by inhalation and skin contact. R 35 Corrosive. Causes severe burns. May be fatal if swallowed or contact with skin or inhaled.

Section 4. First Aid Measures	
Emergency / First Aid Procedures:	<p>Ingestion: Do NOT induce vomiting. Clean mouth with water and afterwards drink plenty of water. Never give anything by mouth to an unconscious person. Consult a physician.</p> <p>Inhalation: Move to fresh air. If not breathing give artificial respiration. If breathing is difficult give oxygen. Consult a physician.</p> <p>Eye Contact: Rinse thoroughly with plenty of water for at least 15 minutes, occasionally lifting upper and lower lids. Continue rinsing eyes during transport to hospital. Consult a physician.</p> <p>Skin Contact: Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Consult a physician.</p>

Section 5. Fire and Explosion Hazard Data	
Flash Point (Method Used): N/A	Flammable Limits: LEL – N/A, UEL – N/A
Extinguishing Media: Use water spray, dry chemical, appropriate foam, or carbon dioxide.	
Protective Equipment: Firefighters should wear protective equipment and self-contained breathing apparatus.	
Unusual Fire and Explosion Hazards: During heating or in case of fire, poisonous gases are produced.	

Section 6. Accidental Release Measures

Personal Precautions: Wear suitable protective clothing, gloves, and eye protection. Avoid contact with skin, eyes and clothing. Avoid breathing vapors, mist or gas. Ensure adequate ventilation.

Environmental Precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into environment must be avoided.

Clean-up Methods: Pick up and transfer to properly labeled containers. Wash spill site after material pickup is complete. Prevent formation of dust. Contact safety officer if questions arise.

Section 7. Handling and Storage

Handling: Handle in accordance with good industrial hygiene and safety practice.

Storage: Keep container tightly closed. Keep away from heat, sparks, flame and incompatible material. Storage area should be cool, dry, and away from incompatible materials. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Section 8. Exposure Controls / Personal Protection

Components with limit values that require monitoring: N/A

OSHA-PEL: TWA – 20 ppm (Formamide)

TWA – 1 mg/m³ (Sulfuric Acid)

TLV: N/A

Additional Information: Personal Protection listed below are general requirements for laboratory personnel. Follow the usual precautionary measures for handling chemicals / powder. Avoid contact with eyes, skin, and clothing. Proper ventilation required. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Personal Protective Equipment:

Keep away from food, beverages, and feed.

Wash hands before and after entering laboratory.

Immediately remove all soiled and contaminated clothing.

Avoid contact with eyes and skin.

Breathing Equipment: If exposure limits are exceeded or irritation is experienced, NIOSH/MSHS approved respiratory protection should be worn.

Hand Protection: Use chemical resistant gloves.

Eye Protection: Wear safety glasses.

Body Protection: Wear lab coat or other protective work clothing.

Section 9. Physical and Chemical Properties

Appearance and Odor: Liquid

Boiling Point: Not determined

Melting Point: Not determined

Density: Not determined

Section 10. Stability and Reactivity			
Stability:	Unstable		
	Stable	X	Conditions to Avoid: Avoid heat, sources of ignition, shock, and friction. Sensitive to moisture.
Incompatibility (Materials to Avoid): Incompatible with strong oxidizing agents, acids and bases.			
Hazardous Decomposition or Byproducts: Carbon oxides, nitrogen oxides, Sulphur oxides.			
Hazardous Polymerization:	May Occur		Conditions to Avoid: Incompatible materials.
	Will Not Occur	X	

Section 11. Toxicological Information	
LD/LC₅₀ values that are relevant:	
LD ₅₀ : ORL-RAT: 5,577 mg/kg (Formamide) 2,140 mg/kg (Sulfuric Acid)	
LC ₅₀ : Inhalation RAT: 3900 ppm – 6h (Formamide) 510 mg/m ³ – 2h (Sulfuric Acid)	
LD ₅₀ : Dermal RABBIT: 17,000 mg/kg	
Carcinogenicity Classification:	
IARC (International Agency for Research on Cancer) – Group 1: Carcinogenic to humans (Sulfuric Acid)	
NTP (National Toxicology Program) - Known to be a carcinogen. (Sulfuric acid)	
Eye: Produces irritation, characterized by a burning sensation, redness, tearing, and inflammation.	
Ingestion: May cause gastrointestinal irritation with nausea and vomiting.	
Inhalation: Harmful if inhaled. May cause a burning sensation, coughing, wheezing, laryngitis, shortness of breath, and headache.	
Chronic: Prolonged or repeated skin contact may cause dermatitis. Chronic inhalation and ingestion may cause effects similar to those of acute inhalation and ingestion.	
Additional toxicological information: Irritant. Sensitizer.	

Section 12. Ecological Information	
Ecotoxicity Tests:	
LC ₅₀ : Gambusia affinis (Mosquito fish) – 42 mg/l – 96h (Sulfuric Acid)	
Harmful to aquatic life (Sulfuric Acid)	

Section 13. Disposal Considerations	
Waste Disposal Method: Dispose in accordance with all applicable federal (40 CFR 261.3), state, and local environmental regulations.	
RCRA P-Series: None listed	
RCRA U-Series: None listed	
Contact a licensed professional waste disposal service to dispose of this material if questions arise.	
Container Information: Dispose of empty containers as unused product.	

Section 14. Transport Information**DOT Regulations:**

UN No. 2796
Proper shipping name: Sulfuric Acid
Class 8
Packing Group: II
Label: Excepted Quantity

Land Transport ADR/RID (cross-border):

UN No. 2796
Proper shipping name: Sulfuric Acid
Class 8
Packing Group: II
Label: Excepted Quantity

Maritime Transport IMDG:

UN No. 2796
Proper shipping name: Sulfuric Acid
Class 8
Packing Group: II
Label: Excepted Quantity

Air Transport ICAO-TI and IATA-DGR:

UN No. 2796
Proper shipping name: Sulfuric Acid
Class 8
Packing Group: II
Label: Excepted Quantity

Section 15. Regulatory Information**EU Regulations, Hazard Symbol(s):****Formamide:** Xi (Irritant)**Proteinase K:** Xi (Irritant)**Risk Phrases:**

R 60 / 61 May impair fertility. May cause harm to the unborn child.

R 20 Harmful by inhalation

R 36 / 37 38 Irritating to eyes, respiratory system and skin.

R 42 / 43 May cause sensitization by inhalation and skin contact.

R 35 Corrosive. Causes severe burns. May be fatal if swallowed or contact with skin or inhaled.

OSHA Hazards

Target organ effect, Highly toxic by inhalation, corrosive, Irritant Target organ effect, corrosive.

SARA 311/312 Hazards

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

State Right-to-Know Components

Massachusetts

Formamide CAS No. 75-12-7

Sulfuric Acid CAS No. 7664-93-9

Pennsylvania

Formamide CAS No. 75-12-7

Sulfuric Acid CAS No. 7664-93-9

New Jersey

Formamide CAS No. 75-12-7

Sulfuric Acid CAS No. 7664-93-9

California Prop. 65 Chemicals

WARNING! This product contains a chemical known to the State of California to cause cancer.

Sulfuric Acid CAS No. 7664-93-9

Section 16. Other Information

This document is believed to be correct, but does not purport to be all inclusive and shall be used only as a guide. Neogen Corporation shall not be held liable for any damage resulting from handling or from contact with the above product. These suggestions should not be confused with state, municipal or insurance requirements, and constitute NO WARRANTY.