NEOGEN CORPORATION

Product # (s) 9790A, 9791E

MATERIAL SAFETY DATA SHEET

Section I – Product Information			
Product Name or Identity:	**LESS Medium, (Listeria Enrichment Single Step)**		
Manufacturer's Name:	Neogen Corporation	**Emergency Phone No.:**	517/372-9200
	620 Lesher Place	**Fax No.:**	517/372-2006
	Lansing, Michigan 48912	**e-mail:**	foodsafety@neogen.com
Date Prepared or Revised: 10/26/05			

Section II – Hazardous Ingredients / Identity Information			
Hazardous Components: (Specific Chemical Identity: Common Names)	**OSHA PEL** (Permissible Exposure Limits)	**ACGIH TLV** (Threshold Limit Value)	**Toxicity Data LD_{50}**
Sodium Pyruvate, Pyruvate acid sodium salt	N/A	N/A	N/A
MOPS, (4-Morpholinepropanesulfonic acid)	N/A	N/A	N/A
Magnesium Sulfate	N/A	N/A	SUBCUT-RAT, 1.2 g/kg
Sodium Chloride, NaCl, Common salt	N/A	N/A	ORL-RAT, 3 g/kg

Section III – Physical Characteristics	
Boiling Point: 1413°C (Sodium Chloride)	**Specific Gravity (H_2O = 1):** 2.16 (Sodium Chloride) 2.57 (Magnesium Sulfate)
Vapor Pressure (mm Hg.): 865° (Sodium Chloride)	**Melting Point:** 804°C (Sodium Chloride), 277°C (MOPS) > 300°C (Sodium Pyruvate), 150°C (Magnesium Sulfate)
Vapor Density (AIR = 1): N/A	**Evaporation Rate (Butyl Acetate = 1):** N/A
Solubility in Water: Soluble, 35.7 g/100g (Sodium Chloride), 1000 g/L at 20°C (MOPS), Soluble (Sodium Pyruvate)	
Appearance and Odor: Colorless crystals or white powder. Characteristic odor (Sodium Chloride) White powder, odorless (MOPS & Sodium Pyruvate), White powder (Magnesium Sulfate).	

Section IV – Fire and Explosion Hazard Data	
Flash Point *(Method Used)*: 116°C (241°F) (MOPS)	**Flammable Limits:** LEL (Lower Explosive Limit) - N/A UEL:(Upper Explosive Limit) - N/A
Extinguishing Media: Suitable extinguishing agents. CO_2, extinguishing powder or water spray.	
Special Fire Fighting Procedures: Fight larger fires with water or alcohol resistant foam. Firefighters should wear protective equipment and self-contained breathing apparatus. As with most organic solids, fire is possible at elevated temperatures or by contact with an ignition source.	
Unusual Fire and Explosion Hazards: During heating or in case of fire, poisonous gases are produced. Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source, is a potential dust explosion hazard.	

Section V – Reactivity Data			
Stability:	Unstable		Conditions to Avoid: Stable under ordinary conditions of use and storage. Protect from light and moisture.
	Stable	X	
Incompatibility *(Materials to Avoid)*: Strong oxidizing agents and strong bases.			
Hazardous Decomposition or Byproducts: Chlorine (Cl), Oxides of nitrogen, Sulfur oxides, Carbon monoxide (CO), and Carbon dioxide (CO_2).			
Hazardous Polymerization:	May Occur		Conditions to Avoid: Heat, dust generation, and incompatible materials.
	Will Not Occur	X	

Section VI – Health Hazard Data			
Route(s) of Entry:	Inhalation? Yes	Skin? Yes	Ingestion? Yes
Health Hazards: *(Acute and Chronic)*	Irritant. Irritating to eyes, respiratory system, and skin. May be harmful if swallowed, inhaled, or absorbed through skin.		
Carcinogenicity:	NTP? No (National Toxicology Program)	IARC Monographs? No (International Agency for Research in Cancer)	OSHA Regulated? No
Signs and Symptoms of Exposure: Irritant to skin and mucous membranes. Irritating effect on the eyes.			
Medical Conditions Generally Aggravated by Exposure: May cause chemical conjuctivitis. May cause gastrointestinal irritation with nausea, vomiting and diarrhea. Extended exposure to MOPS can produce delayed pulmonary edema.			
Emergency / First Aid Procedures:	Ingestion: If swallowed, seek medical attention immediately.		
	Inhalation: In case of unconsciousness, place patient on side position for transportation. Supply fresh air or oxygen; seek medical attention immediately.		
	Eye Contact: Rinse opened eye for at least 15 minutes under running water. Seek medical attention.		
	Skin Contact: Immediately wash with plenty of soap and water for at least 15 minutes. Seek medical attention.		

Section VII – Precautions for Safe Handling and Use
Accidental Release Measures: Ventilate spill area. Wear suitable protective clothing. Wipe up with damp sponge or mop. Remove all sources of ignition.
Waste Disposal Method: Dispose in accordance with all applicable federal, state, and local environmental regulations.
Handling and Storing: Keep container tightly closed. Store in a cool, dry, ventilated area. Do not store together with oxidizing, acidic, alkali material, or metals. Observe all warnings and precautions listed for the product.
Other Precautions: Remove contaminated clothing immediately. Ensure good ventilation / exhaustion at the workplace. Prevent formation of dust. Empty only into inert or non-flammable atmosphere. Containers may be hazardous when empty, they retain product residues. Avoid prolonged or repeated exposure.

Section VIII – Control Measures		
Respiratory Protection (Specify Type): None required where adequate ventilation conditions exist. If airborne concentration is high, use an appropriate respirator or dust mask.		
Ventilation:	Local Exhaust: 50 – 100 CFM	Special: N/A
	Mechanical (General): N/A	Other: N/A
Protective Gloves: Proper disposable gloves		Eye Protection: Chemical resistant safety goggles
Other Protective Clothing or Equipment: Uniform, lab coat or disposable lab wear.		
Work / Hygienic Practices: Follow the usual precautionary measures for handling chemicals / powder. Keep away from food and beverages. Immediately remove all soiled and contaminated clothing. Avoid contact with eyes, skin, and clothing.		