



MATERIAL SAFETY DATA SHEET

Section I – Product Information			
Product Name or Identity:	Fraser Broth		
Manufacturer's Name:	Acumedia Manufacturers, Inc.	Emergency Phone No.:	517/372-9200
	740 East Shiawassee	Fax No.:	517/372-2006
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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
Lithium Chloride	N/A	N/A	ORL-RAT, 526 mg/kg
Sodium Chloride, NaCl, Common salt	N/A	N/A	ORL-RAT, 3000 mg/kg
Potassium Phosphate	N/A	N/A	SKN-RBT, > 4640 mg/kg
Sodium Phosphate, dibasic	N/A	N/A	ORL-RAT, 17000 mg/kg

Section III – Physical Characteristics	
Boiling Point: 1360°C (Lithium Chloride) 1413°C (Sodium Chloride)	Specific Gravity (H₂O = 1): 2.04 (Sodium Phosphate) 2.16 (Sodium Chloride), 2.07 (Lithium Chloride)
Vapor Pressure (mm Hg.): 865°C (Sodium Chloride)	Melting Point: 804°C (Sodium Chloride), 613°C (Lithium Chloride) 240°C (Sodium Phosphate), > 465°C (Potassium Phosphate)
Vapor Density (AIR = 1): N/A	Evaporation Rate (Butyl Acetate = 1): N/A
Solubility in Water: 1 g/1.3 mL cold water (Lithium Chloride), 150 g/ 100 g cold water (Potassium Phosphate)	
Appearance and Odor: White crystals, odorless (Lithium Chloride), White granular powder (Sodium Phosphate)	

Section IV – Fire and Explosion Hazard Data	
Flash Point (Method Used): Not applicable	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: Moisture and air sensitive.
	Stable	X	
Incompatibility (Materials to Avoid): Incompatible with strong acids, metals, oxidizers, and Bromine trifluoride.			
Hazardous Decomposition or Byproducts: Carbon dioxide (CO ₂), Lithium oxide (LiOx), Phosphorus oxides (POx), Hydrogen chloride (HCl), and Sulfur oxides (SOx). Emits toxic fumes of chlorine when heated to decomposition.			
Hazardous Polymerization:	May Occur		Conditions to Avoid: Heat, moisture, 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)	Harmful. Harmful if swallowed, inhaled, or absorbed through skin. Skin irritation may be severe. Irritating to eyes, respiratory system, and skin. Lithium Chloride may affect central nervous system effects.		
Carcinogenicity:	NTP? No (National Toxicology Program)	IARC Monographs? No (International Agency for Research in Cancer)	OSHA Regulated? No
Signs and Symptoms of Exposure: Lithium Chloride may affect respiratory system, muscles, and kidneys. Irritation to the gastrointestinal tract. Lithium Chloride can cause irritation, redness, and pain to the eyes. Sodium Phosphate is a corrosive material and can cause burns. Sensitization possible through skin contact and inhalation. Material can be irritating to mucous membranes and respiratory tract.			
Medical Conditions Generally Aggravated by Exposure: Chronic exposure of phosphates may sequester calcium and cause calcium phosphate deposits in the kidneys. Persons with impaired kidney function may be more susceptible to the effects of the substance. Phosphates are slowly and incompletely absorbed when ingested. Symptoms may include vomiting, lethargy, diarrhea, cardiac effects, and central nervous system effects.			
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 area of leak or spill. Wear suitable protective clothing. Wipe up with damp sponge or mop. Avoid inhalation, contact with eyes, skin, and clothing.
Waste Disposal Method:	Dispose in accordance with all applicable federal, state, and local environmental regulations.
Handling and Storing:	Keep container tightly closed. Store at < 30°C in cool, dry conditions. Do not store together with oxidizing and acidic materials. Do not store together with alkali material (caustic) or metals. Containers may be hazardous when empty because they retain product residues (dust, solids).
Other Precautions:	Remove contaminated clothing immediately. Ensure good ventilation / exhaustion at the workplace. Prevent formation of dust. 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.		

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