



# MATERIAL SAFETY DATA SHEET

**Analytical Sensors & Instruments Ltd.**

12800 Park One Drive  
 Sugar Land, TX 77478-2521  
 Phone: (281)-565-8818; Fax: (281)-565-8811  
 Email: info@asi-sensors.com

**Section I. PRODUCT IDENTIFICATION**

<b>Product Name:</b> Solution, Chloride ISE or Silver ISE, Ionic Strength Adjustor Solution, (5 M NaNO <sub>3</sub> ) (Sodium Nitrate)	<b>Catalog No.</b> AJ0CL1-xx or AJ0AG1-xx	<b>Effective Date</b> 06 May, 2008
<b>Hazardous Shipment Labeling:</b> DOT: None	<b>IATA:</b> None	
<b>Prepared by:</b> George C. Barone III, Ph.D.	<b>Title:</b> Senior Research Chemist	
<b>Approved by:</b> George C. Barone III, Ph.D.	<b>Title:</b> Director Regulatory Compliance	

**Section II. HAZARDOUS INGREDIENTS/Identity Information**

Hazardous Components* Specific Chemical Identity; Common Name(s)	CAS No.	%	OSHA PEL	ACGIH TLV	LD <sub>50</sub> mg/Kg
Sodium Nitrate (NaNO <sub>3</sub> )	7631-99-4	<45	None Listed	None Listed	1,267 (ORL-RAT)
Non-hazardous Component**	NA	<1	None Listed	None Listed	NA
Deionized Water (H <sub>2</sub> O)**	7732-18-5	>54	None Listed	None Listed	190,000 (IPR-MUS)

**Section III. PHYSICAL/CHEMICAL DATA AND CHARACTERISTICS**

<b>Boiling Point at 760 mmHg</b>	NA	<b>Freezing Point</b>	NA
<b>Specific Gravity (H<sub>2</sub>O = 1)</b>	NA	<b>Vapor Pressure at 25°C</b>	NA
<b>pH at 25°C</b>	5.5 to 8.0	<b>Solubility in water, % by wt</b>	Miscible
<b>Volatiles, % by wt</b>	NA	<b>Evaporation Rate (B A = 1)</b>	NA
<b>Vapor Density (AIR = 1):</b> NA			
<b>Appearance and Odor:</b> Clear, colorless, and odorless liquid			

**Section IV. FIRE AND EXPLOSION HAZARD DATA**

<b>Flash Point (Method Used):</b> NA	<b>Auto-ignition Temperature:</b> NA	<b>Flammable Limits</b> Lower Upper In air, % by volume: NA NA
<b>Extinguishing Media:</b> Dry chemical, water, foam, or CO <sub>2</sub> Use media appropriate to surrounding fire conditions		
<b>Special Fire Fighting Procedures:</b> This product is not combustible, but is a strong oxidizer and the heat of reaction with reducing agents or combustibles may cause ignition. This product is a moderate irritant and presents a contact hazard to firefighters. When in a fire this material may decompose and produce acrid vapors, sodium compounds, and oxides of nitrogen. This product is an oxidizer, which can act to initiate and sustain the combustion of adjacent flammable materials.		
<b>Unusual Fire and Explosion Hazards:</b> Explosive with shock, heat, or friction in dried state. Dry chemical decomposes explosively when heated above 538°C (1,000°F). Dry powder is sensitive to mechanical impact.		

**Section V. REACTIVITY DATA**

<b>Stability:</b> Unstable Stable X	<b>Conditions to Avoid:</b> Reducers, water reactive materials, or extreme temperatures. This is an oxidizer that can initiate and sustain the combustion of combustible materials.
<b>Incompatibility (Materials to Avoid):</b> Avoid exposures to extreme temperatures, contact with incompatible chemicals (Reducers or water incompatibles), and contact with combustible materials. Reacts with acids to emit toxic fumes of nitrogen dioxide. Contact with the following may cause an explosion: barium rhodanide, boron phosphide, cyanides, sodium thiosulfate, sodium hypophosphite, sulfur plus charcoal, powdered aluminum and aluminum oxide. Fibrous organic material such as jute, wood, and similar cellulosic materials can become highly combustible by nitrate impregnation.	
<b>Hazardous Decomposition or Byproducts:</b> Sodium and nitrogen oxides	
<b>Hazardous Polymerization:</b> May Occur Will Not Occur X <b>Conditions to Avoid:</b> Reducers, water reactive materials, incompatibles, or extreme temperatures.	



# MATERIAL SAFETY DATA SHEET

Analytical Sensors & Instruments Ltd.

## Section VI. HEALTH HAZARD DATA

<b>Route(s) of Entry:</b>	<b>Inhalation?</b> YES	<b>Skin?</b> YES	<b>Ingestion?</b> YES
<b>Health Hazards (Acute and Chronic):</b> May cause irritation in contact areas. May cause eye irritation. Ingestion of very large doses may cause weakness, circulatory disturbances, heart problems, and/or blood pressure changes. In rare cases nitrate is converted by bacteria to nitrite and nausea, vomiting, dizziness, rapid heart beat, irregular breathing, convulsions, coma, and death can occur if this conversion takes place.			
<b>Carcinogenicity:</b>	<b>NTP?</b>	<b>IARC Monographs?</b>	<b>OSHA Regulated?</b> Not found on these lists
<b>Signs and Symptoms of Exposure:</b> May cause irritations to eyes, skin, mucous membranes or digestive tract. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.			
<b>Medical Conditions Generally Aggravated by Exposure:</b> Workers with a history of lung or kidney disease may be more susceptible to this material. May cause eye irritation, may be harmful or cause irritation if swallowed, inhaled, or allowed to come in contact with the skin.			
<b>Emergency and First Aid Procedures:</b> <b>Eye Contact:</b> Immediately flush eyes with copious amounts of water, separate eyelid from eye. Call physician if irritation develops. <b>Skin Contact:</b> Wash effected area with soap and copious amounts of water. Call physician if irritation develops. <b>Ingestion:</b> Wash out mouth if person is conscious. Give 1 to 2 glasses of water. Call physician if you feel unwell. <b>Inhalation:</b> Remove to fresh air, if not breathing give artificial respiration, if breathing is difficult give oxygen. Call physician.			

## Section VII. PRECAUTIONS FOR SAFE HANDLING AND USE

<b>Steps to Be Taken in Case Material is Released or Spilled:</b> Clean up then dispose of properly according to local laws. Observe all Federal, State and Local laws when disposing of this product.
<b>Waste Disposal Method:</b> Observe all Federal, State and Local laws when disposing of this product.
<b>Precautions to Be taken in Handling and Storing:</b> Avoid contact with eyes. Wash hands thoroughly after use. NFPA Rating: Scale (0-4): Health – 1, Fire – 0, Reactivity – 2, Specific – OX (Oxidizer).
<b>Other Precautions:</b> Sodium nitrate SARA 313 (40 CFR 372.65) list and is an oxidizer. Sodium nitrate is on the TSCA list and on the SARA 311/312 is listed as Acute: yes, Chronic: yes, Fire: yes, Pressure: no, Reactivity: yes.

## Section VIII. CONTROL MEASURES

<b>Respiratory Protection (Specify Type)</b> Wear appropriate respirator if ventilation is inadequate		
<b>Ventilation</b>	<b>Local Exhaust:</b> NONE	<b>Special:</b> NONE
<b>Ventilation</b>	<b>Mechanical (General):</b> NONE	<b>Other:</b> NONE
<b>Protective Gloves:</b> Disposable latex gloves or similar	<b>Eye Protection:</b> Safety Glasses with top and side shields	
<b>Other Protective Clothing or Equipment:</b> Eye wash station should be available. Wear protective garments if sensitive skin.		
<b>Work/Hygienic Practices:</b> No eating or drinking in work area. Wash hands after working with this product.		

\*Chemicals that are not classified as hazardous by U.S. OSHA guidelines (29 CFR Parts 1915.2 or 1916.2) will not necessarily be listed herein even though one or more may be in this product.

\*\* Non-hazardous component

NA = Not available/Not applicable

Liability is expressly disclaimed for any loss or injury arising out of the use of this information or the use of this product or any materials designated. Safe use of the materials is the responsibility of the user.

Document Number: ASI-000001 – Rev. B