







# Material Safety Data Sheet

NFPA	HMIS	Personal Protective Equipment						
	<table><tr><td>Health Hazard</td><td>1</td></tr><tr><td>Fire Hazard</td><td>0</td></tr><tr><td>Reactivity</td><td>0</td></tr></table>	Health Hazard	1	Fire Hazard	0	Reactivity	0	<div></div> <div>See Section 15.</div>
Health Hazard	1							
Fire Hazard	0							
Reactivity	0							

Section 1. Chemical Product and Company Identification			Page Number: 1	
Common Name/ Trade Name	Nitrogen Standard, Solution, 1 ml = 0.1 mg N.		Catalog Number(s).	N-151
			CAS#	Mixture.
Manufacturer	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248		RTECS	Not applicable.
			TSCA	TSCA 8(b) inventory: Ammonium chloride; Water
Commercial Name(s)	Not available.		CI#	Not applicable.
Synonym	Not available.		<b><u>IN CASE OF EMERGENCY</u></b> <b><u>CHEMTREC (24hr) 800-424-9300</u></b>  CALL (310) 516-8000	
Chemical Name	Not applicable.			
Chemical Family	Chloride salt. (Salt.)			
Chemical Formula	Not applicable.			
Supplier	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248			

Section 2. Composition and Information on Ingredients					
		Exposure Limits			
Name	CAS #	TWA (mg/m <sup>3</sup> )	STEL (mg/m <sup>3</sup> )	CEIL (mg/m <sup>3</sup> )	% by Weight
1) Ammonium chloride	12125-02-9	10	20		0.04
2) Water	7732-18-5				100
Toxicological Data on Ingredients	Ammonium chloride: ORAL (LD50): Acute: 1650 mg/kg [Rat.]. 1300 mg/kg [Mouse].				

Section 3. Hazards Identification	
Potential Acute Health Effects	Slightly hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion. Non-hazardous in case of inhalation.
Potential Chronic Health Effects	CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available.

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#### **Section 4. First Aid Measures**

<b>Eye Contact</b>	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention if irritation occurs.
<b>Skin Contact</b>	Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops. Cold water may be used.
<b>Serious Skin Contact</b>	Not available.
<b>Inhalation</b>	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if symptoms appear.
<b>Serious Inhalation</b>	Not available.
<b>Ingestion</b>	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.
<b>Serious Ingestion</b>	Not available.

#### **Section 5. Fire and Explosion Data**

<b>Flammability of the Product</b>	Non-flammable.
<b>Auto-Ignition Temperature</b>	Not applicable.
<b>Flash Points</b>	Not applicable.
<b>Flammable Limits</b>	Not applicable.
<b>Products of Combustion</b>	Not available.
<b>Fire Hazards in Presence of Various Substances</b>	Not applicable.
<b>Explosion Hazards in Presence of Various Substances</b>	Non-explosive in presence of open flames and sparks, of shocks.
<b>Fire Fighting Media and Instructions</b>	Not applicable.
<b>Special Remarks on Fire Hazards</b>	Not available.
<b>Special Remarks on Explosion Hazards</b>	Explosive reaction between bromine trifluoride and ammonium halides. (Ammonium chloride)

#### **Section 6. Accidental Release Measures**

<b>Small Spill</b>	Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.
<b>Large Spill</b>	Absorb with an inert material and put the spilled material in an appropriate waste disposal. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

### **Section 7. Handling and Storage**

<b>Precautions</b>	No specific safety phrase has been found applicable for this product.
<b>Storage</b>	Keep container tightly closed. Keep container in a cool, well-ventilated area.

### **Section 8. Exposure Controls/Personal Protection**

<b>Engineering Controls</b>	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.
<b>Personal Protection</b>	Safety glasses. Synthetic apron. Gloves (impervious).
<b>Personal Protection in Case of a Large Spill</b>	Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
<b>Exposure Limits</b>	Ammonium Chloride: TWA: 10 STEL: 20 (mg/m <sup>3</sup> ) from ACGIH (TLV) [United States] Inhalation TWA: 10 STEL: 20 (mg/m <sup>3</sup> ) [United Kingdom (UK)] Inhalation TWA: 10 STEL: 20 (mg/m <sup>3</sup> ) from NIOSH [United States] Inhalation TWA: 10 STEL: 20 (mg/m <sup>3</sup> ) from OSHA (PEL) [United States]  Consult local authorities for acceptable exposure limits.

### **Section 9. Physical and Chemical Properties**

<b>Physical state and appearance</b>	Liquid.	<b>Odor</b>	Not available.
<b>Molecular Weight</b>	Not applicable.	<b>Taste</b>	Not available.
<b>pH (1% soln/water)</b>	Neutral.	<b>Color</b>	Clear Colorless.
<b>Boiling Point</b>	The lowest known value is 100°C (212°F) (Water).		
<b>Melting Point</b>	Not available.		
<b>Critical Temperature</b>	Not available.		
<b>Specific Gravity</b>	The only known value is 1 (Water = 1) (Water).		
<b>Vapor Pressure</b>	The highest known value is 2.3 kPa (@ 20°C) (Water).		
<b>Vapor Density</b>	The highest known value is 0.62 (Air = 1) (Water).		
<b>Volatility</b>	Not available.		
<b>Odor Threshold</b>	Not available.		
<b>Water/Oil Dist. Coeff.</b>	Not available.		
<b>Ionicity (in Water)</b>	Not available.		
<b>Dispersion Properties</b>	See solubility in water, methanol.		
<b>Solubility</b>	Easily soluble in cold water, hot water. Soluble in methanol. Insoluble in diethyl ether, acetone.		

### **Section 10. Stability and Reactivity Data**

<b>Stability</b>	The product is stable.
<b>Instability Temperature</b>	Not available.
<b>Conditions of Instability</b>	Incompatible materials
<b>Incompatibility with various substances</b>	Not available.
<b>Corrosivity</b>	Not available
<b>Special Remarks on Reactivity</b>	Incompatible with lead and silver salts. It can react violently with ammonium nitrate and potassium chlorate. Also incompatible with bromine trifluoride, ammonium halides, bromine pentafluoride, alkalis and their carbonates. At fire temperature, ammonium chloride may dissociate into ammonia and hydrogen chloride. Hygroscopic; keep container tightly closed. (Ammonium chloride)
<b>Special Remarks on Corrosivity</b>	Not available.
<b>Polymerization</b>	Will not occur.

### **Section 11. Toxicological Information**

<b>Routes of Entry</b>	Skin contact. Eye contact.
<b>Toxicity to Animals</b>	<b>Ammonium chloride:</b> ORAL (LD50): Acute: 1650 mg/kg [Rat.]. 1300 mg/kg [Mouse].
<b>Chronic Effects on Humans</b>	Not available.
<b>Other Toxic Effects on Humans</b>	Slightly hazardous in case of skin contact (irritant), of ingestion. Non-hazardous in case of inhalation.
<b>Special Remarks on Toxicity to Animals</b>	Lowest Published Lethal Dose: LDL [Human Infant] - Route: Oral; Dose: 2000 mg/kg (Ammonium chloride)
<b>Special Remarks on Chronic Effects on Humans</b>	May affect genetic material (mutagenic) Animal: passes through the placental barrier. (Ammonium chloride)
<b>Special Remarks on other Toxic Effects on Humans</b>	Acute Potential Health Effects: Skin: Low Hazard. May cause irritation, particularly for those individuals with sensitive skin. Eyes: Low Hazard. May cause eye irritation. Inhalation: Not expected to be an inhalation hazard. Ingestion: Very low hazard for normal handling. May cause gastrointestinal tract disturbances. May cause nausea, vomiting. The product contains Ammonium Chloride. Ingestion of large amounts of Ammonium Chloride may affect behavior/central nervous system (headache, somnolence, confusion, drowsiness, tremor, convulsions, coma), eyes (Mydriasis), cardiovascular system (bradycardia), respiration (respiratory stimulation, apnea, hyperventilation, pulmonary edema). May cause serious metabolic acidosis with hypokalemia. Transient hyperglycemia and glycosuria may also occur. Chronic Potential Health Effects: Skin: Prolonged or repeated contact with Ammonium Chloride may cause dermatitis, an allergic reaction. Ingestion: Prolonged or repeated ingestion of Ammonium Chloride may affect metabolism (anorexia, metabolic acidosis) and urinary system (enlargement of kidneys).


### **Section 12. Ecological Information**

<b>Ecotoxicity</b>	Not available.
<b>BOD5 and COD</b>	Not available.
<b>Products of Biodegradation</b>	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
<b>Toxicity of the Products of Biodegradation</b>	Not available.
<b>Special Remarks on the Products of Biodegradation</b>	Not available.

### **Section 13. Disposal Considerations**

<b>Waste Disposal</b>	Waste must be disposed of in accordance with federal, state and local environmental control regulations.
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### **Section 14. Transport Information**

<b>DOT Classification</b>	Not a DOT controlled material (United States).
<b>Identification</b>	Not applicable.
<b>Special Provisions for Transport</b>	Not applicable.
<b>DOT (Pictograms)</b>	

### **Section 15. Other Regulatory Information and Pictograms**

<b>Federal and State Regulations</b>	Illinois toxic substances disclosure to employee act: Ammonium chloride Illinois chemical safety act: Ammonium chloride New York release reporting list: Ammonium chloride Rhode Island RTK hazardous substances: Ammonium chloride Pennsylvania RTK: Ammonium chloride Minnesota: Ammonium chloride Massachusetts RTK: Ammonium chloride Massachusetts spill list: Ammonium chloride New Jersey: Ammonium chloride New Jersey spill list: Ammonium chloride Louisiana spill reporting: Ammonium chloride California Director's List of Hazardous Substances: Ammonium Chloride TSCA 8(b) inventory: Ammonium chloride; Water CERCLA: Hazardous substances.: Ammonium chloride: 5000 lbs. (2268 kg);
<b>California Proposition 65 Warnings</b>	California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: No products were found. California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: No products were found.
<b>Other Regulations</b>	

For Ammonium Chloride:  
 EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances (EINECS No. 235-186-4).  
 Canada: Listed on Canadian Domestic Substance List (DSL).  
 China: Listed on National Inventory.  
 Japan: Listed on National Inventory (ENCS).  
 Korea: Listed on National Inventory (KECI).  
 Philippines: Listed on National Inventory (PICCS).  
 Australia: Listed on AICS.  
 For Water:  
 EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances (EINECS No. 231-791-2).  
 Canada: Listed on Canadian Domestic Substance List (DSL).  
 Australia: Listed on AICS.

**Other Classifications**

**WHMIS (Canada)** Not controlled under WHMIS (Canada).

**DSCL (EEC)** This product is not classified according to the EU regulations. Not applicable.

**HMIS (U.S.A.)**

Health Hazard	1
Fire Hazard	0
Reactivity	0
Personal Protection	C

**National Fire Protection Association (U.S.A.)**

Health	0	Flammability	0
		Reactivity	0
		Specific hazard	

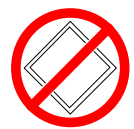
**WHMIS (Canada) (Pictograms)**



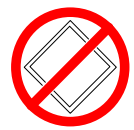
**DSCL (Europe) (Pictograms)**



**TDG (Canada) (Pictograms)**



**ADR (Europe) (Pictograms)**



**Protective Equipment**



Gloves (impervious).



Synthetic apron.



Not applicable.  
Safety glasses.

**Section 16. Other Information**

**MSDS Code** N151S

**References** Not available.

**Other Special  
Considerations** Not available.

Validated by Sonia Owen on 8/11/2006.

Verified by Sonia Owen.

Printed 9/12/2006.

CALL (310) 516-8000

**Notice to Reader**

*All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.*