SOUTHERN IONICS INCORPORATED (SII)
SAFETY DATA SHEET

SDS NO. 234
Effective Date: April 12, 2018
Revision Date: September 25, 2020

I. Product and Company Information

SII Product Name(s):	Aqua Ammonia (5 % - 19 %)	**Synonym(s):**	Ammonia Solution, Aqua Ammonia
Chemical Name:	Ammonium Hydroxide	**CAS Number:**	1336-21-6

Manufacturer's Name:
Southern Ionics Incorporated
579 Commerce Street
West Point, MS 39773
Customer Service: 1-800-953-3585
Web Site: **www.southernionics.com**

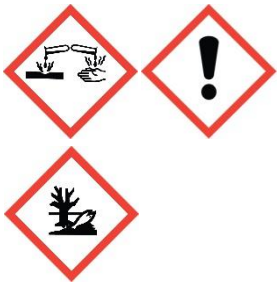
Emergency Contacts:
After hours (Southern Ionics):
1-888-610-2379
For Chemical Emergency, Spill, or Accident
Call CHEMTREC at 1-800-424-9300
CHEMTREC CCN - 20596

II. Hazard Identification

OSHA HCS / GHS Classification(s):	**Hazard Statement(s):**
Acute Toxicity, Oral, Category 4	Harmful if swallowed.
Skin Corrosion, Category 1	Causes severe skin burn.
Serious Eye Damage, Category 1	Causes serious eye damage.
Specific Target Organ Toxicity, Respiratory - single exposure, Category 3	May cause respiratory irritation.
Simple Asphyxiants	May displace oxygen and cause rapid suffocation.
Acute Aquatic Toxicity, Category 1	Very toxic to aquatic life.

Signal Word:
Danger

Symbols:



Precautionary Statement(s):	
Prevention:	Wash affected body parts thoroughly after handling.
	Do not eat, drink, or smoke when using this product.
Response:	Wear eye and face protection.
	Wear protective gloves and clothing.
	Do not breathe mist, vapors, or spray.
	Avoid release to the environment.
	IF SWALLOWED: Rinse mouth. Do not induce vomiting. Immediately seek medical advice.
	IF ON SKIN: Immediately remove all contaminated clothing. Rinse skin with water. Wash contaminated clothing before reuse.
	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
	To collect spillage, see Section VI. Accidential Release Measures.
	For specific treatment, see Section IV. First Aid Measures.

III. Composition / Information on Ingredients

Chemical Name(s):	**CAS Number(s):**	**%**
Ammonia (NH_3)	7664-41-7	5 - 19.9
Water	7732-18-5	Balance

IV. First Aid Measures	
Eyes:	Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Remove any contact lenses. Seek medical attention, if you feel unwell.
Dermal / Skin:	Remove contaminated clothing and wash exposed area thoroughly with soap and water. Seek medical attention, if you feel unwell.
Inhalation:	Move to fresh air immediately. If breathing is difficult, give oxygen. Seek medical attention, if you feel unwell.
Ingestion:	If swallowed, DO NOT induce vomiting. Rinse mouth. Seek medical attention, if you feel unwell.

V. Fire Fighting Measures				
NFPA Hazard Rating:	Health (Blue)	Fire (Red)	Reactivity (Yellow)	Special Instructions (White)
	3	1	0	None
NFPA Hazard Classification: 0 = Least 1 = Slight 2 = Moderate 3 = High 4 = Extreme				
Extinguishing Media:	Use extinguishing media appropriate for surrounding fire (Not CO_2).			
Special Firefighting Procedure:	Wear full protective clothing and a self-contained breathing apparatus (SCBA) because toxic fumes are emitted. Stop flow if possible. Use water to keep fire-exposed containers cool and to protect persons shutting off flow of liquid. For a serious leak, use fire hose with a fog nozzle and plenty of water to absorb ammonia vapors.			
Unusual Fire and Explosion Hazards:	At elevated temperatures, aqua ammonia will emit ammonia gas and possibly small amounts of nitrogen oxides which have been classified as toxic. Presence of oil or other combustible materials increases the fire hazard of ammonia gas. Ammonia concentrations in the range of 16-25 % by volume in air can be ignited or caused to explode if heated to the auto-ignition temperature.			

VI. Accidental Release Measures	
Precaution if Spilled or Released:	Steps should be taken to contain spilled liquids and prevent discharges to streams or sewer systems. Ventilate spill or leak area to disperse gas. Eliminate all sources of ignition. Stop flow if possible. If small spill, either allow it to vaporize or absorb the vapor in water. If large spill, spray the vapor cloud with water to reduce fire and fume hazard.
Neutralizing Chemicals:	Neutralization with acid not recommended. Flush area with water.

VII. Handling and Storage	
Handling:	Handle all chemicals with respect. Keep separated from incompatible substances. Handle only with equipment, materials, and supplies specified by their manufacturer as being compatible and appropriate for use with this product.
Storage:	Storage in specially designated areas outside, or in detached structure, is preferred. Store inside only in a cool, well-ventilated area free from combustibles and away from all sources of ignition. Protect containers from corrosion and mechanical damage. Containers should have safety relief valves. Separate from other chemicals, particularly oxidizing gases, organic materials, chlorine, bromine, iodine, mercury, and acids. Post readily visible warning signs in the storage area listing emergency measures. Water hoses should be readily available to knock down vapors from spill.

VIII. Exposure Control / Personal Protective Equipment

Component Workplace Control Parameters:

Components:	CAS Number	Value	Parameters	Basis
Ammonia NH_3	7664-41-7	TWA	25 ppm	as Ammonia NH_3 (ACGIH)

Engineering Controls:	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.
General Hygiene:	Practice good personal hygiene after using this material, especially before eating, drinking, smoking, or using the toilet.
Personal Protection Equipment:	
Eye:	Wear chemical goggles and face shield unless protected by a respirator with a full face piece. Do not wear contact lenses as they may trap fumes against the eyes and can make flushing ineffective.
Skin:	The use of gloves, boots, and aprons impermeable to the specific material handled (for Ammonia, includes Butyl, Teflon, Neoprene, and Viton) is advised to prevent skin contact, possible irritation, and skin damage.
Respiratory:	None required under normal conditions. When conditions warrant a respirator, use NIOSH-approved respirator and cartridge for particulates and ammonia.
Other Protective Items:	Where splash is possible, full chemically resistant protective clothing and boots are required. Ensure that eyewash stations and safety showers are proximal to the work location.

HMIS Classification:	Health (Blue)	Flammability (Red)	Physical Hazard (Yellow)	PPE (White)
	3	1	0	See Above

Hazard Classification: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

IX. Physical and Chemical Properties

Physical State:	Liquid	**pH:**	>12
Appearance:	Clear, colorless liquid	**Molecular Weight:**	35.05
Odor:	Pungent odor	**Odor Threshold:**	1-50 ppm
Specific Gravity: (H_2O=1)	0.98 (5 % Solution) 0.94 (15 % Solution) 0.93 (19 % Solution) @ 60 °F / 15.5 °C	**Weight per Gallon:**	8.17 (5 % Solution) 7.87 (15 % Solution) 7.76 (19 % Solution) lbs @ 60 °F / 15.5 °C
Vapor Density: (Air=1)	0.60 @ 32 °F / 0 °C	**Vapor Pressure:**	78 mm Hg (5 %) 194 mm Hg (15 %) 264 mm Hg (19 %) @ 77 °F (25 °C)
Boiling Point: at 14.7 psia	177 °F / 80.5 °C (5 %) 120 °F / 48.9 °C (19 %)	**Freezing/Melting Point:**	25 °F / -4 °C (5 %) -30 °F / - 34 °C (19 %)
Lower Explosive Limit:	16 % by volume ammonia gas	**Upper Explosive Limit:**	25 % by volume ammonia gas
Flash Point:	N/A	**Autoignition Temp:**	1,204 ° F / 651 °C (vapor)
Solubility in Water:	100 %	**Other:**	

X. Stability and Reactivity Data

Chemical Stability:	Product is stable under normal or expected use.
Conditions to Avoid:	Heat, sunlight, incompatibles, sources of ignition.
Incompatible Materials:	Corrosive to copper, brass, silver, zinc, aluminum alloys, and galvanized steel. Immediately boils when mixed with acids and is dangerous. Forms explosive compounds with calcium hypochlorite, bleaches, gold, mercury, silver, chlorine, and other halogens.
Hazardous Products of Decomposition:	Burning may produce ammonia and nitrogen oxides.

XI. Toxicological Information

Routes of Entry:	☒ Eyes ☒ Skin ☒ Ingestion ☒ Inhalation
Sign and Symptoms of Exposure:	Burning of the eyes, conjunctivitis, skin irritations, swelling of the eyelids and lips, dry red mouth and tongue, burning in the throat, and coughing. In more severe cases of exposure, difficulty breathing, signs and symptoms of lung congestion, and, ultimately, death from respiratory failure due to pulmonary edema may occur.
Eye Contact:	Vapor is irritating to the eyes. Liquid will cause burns.
Ingestion:	Ingestion causes burning pain in mouth, throat, stomach, thorax, constriction of throat, and coughing. This is soon followed by vomiting of blood or by passage of loose stools containing blood. Ingestion of 3 - 4 mL may be fatal.
Skin Contact:	Absorption: Because of its alkalinity and water solubility, ammonia tends to break down and disrupt the outer cell layers, permitting rapid penetration; however, ammonia is not a systemic poison, and the effects will be limited to local effects. Contact: Causes smarting of the skin and first-degree burns on short exposure. May cause second-degree burns on long exposure.
Inhalation:	Ammonia vapors are highly irritating to the throat at approximately 400 ppm. Causes edema, dyspnoea, bronchospasm, chest pain, pink frothy sputum. Inhalation of ≥500 ppm ammonia is considered immediately dangerous to life and health (OSHA).

Carcinogenicity: Not Listed	**NPT**	Not Listed	**IARC**	Not Listed	**OSHA**	Not Regulated

Ingredient Name:	**Species**	**Test**	**Period**	**Results**
Ammonium Hydroxide	Rat	350 mg/kg	Oral	LD50
Comments:				

XII. Ecological Information

Ingredient Name:	**Species**	**Test**	**Period**	**Results**
Ammonia NH_3	Chinook Salmon	0.45 mg/L	96 hrs	LC50
Comments:	Ammonia dissipates relatively quickly in ambient air and rapidly returns to the soil via combination with sulfate ions or washout by rainfall. Ammonia strongly adsorbs to soil, sediment particles, and colloids in water under aerobic conditions. Biodegradation of ammonia to nitrate occurs in water under aerobic conditions which results in a biological oxygen demand (BOD).			

XIII. Disposal Considerations

Waste Disposal:	Always dispose of material in accordance with local, state, and federal regulations.

XIV. Transportation Information

Proper Shipping Name:	Ammonium Hydroxide, with more than 10 % but not more than 35 % as ammonia. Marine pollutant.				
DOT Classification:	8				
Identification Number:	UN 2672	**Packing Group:**	III	**Other Labels:**	Corrosive
Comments:					

XV. Regulatory Information

Inventory Status:		**US Regulations:**	
U. S. TSCA	Yes	SARA 302 TPQ	500 lbs as Ammonia NH_3
Europe EINECS	Yes	SARA 304 RQ	100 lbs as Ammonia NH_3
Canadian DSL	Yes	SARA 313 List	Listed
Japan ENCS	Yes	CERCLA (RQ)	1,000 lbs for pure Ammonium Hydroxide
Korean KECI	Yes	RCRA 261.33	Not Listed
Philippines PICCS	Yes		
Australian AICS	Yes	SARA 311/312	☒ Acute ☐ Chronic ☐ Fire ☐ Release of Pressure ☐ Reactive

International Regulations:			**Other Regulations:**	
EINECS	231-635-3	as Anhydrous Ammonia	California PROP 65	No
EINECS	215-647-6	as Aqua Ammonia		
Comments:				

XVI. Other Information

Other:	
Revision Notes:	09.25.20 Reviewed as part of a 3-year review process. Updated logo and formatting.
MSDS Replacements:	

SALES OFFICE

For Product Information:
TEL: 662-494-3055
FAX: 662-494-2828

Post Office Drawer 1217
West Point, MS 39773

To Place an Order:
TEL: 800-953-3585
FAX: 800-953-3588