



**SOUTHERN IONICS INCORPORATED (SII)**  
**SAFETY DATA SHEET**

SDS NO. 235  
Effective Date: April 12, 2018  
Revision Date: December 08, 2020

### I. Product and Company Information

|  |  |                    |                  |
|--|--|--------------------|------------------|
| <b>SII Product Name(s):</b>  | Aqua Ammonia (20 % - 30.5 %)   | <b>Synonym:</b>    | Ammonia Solution |
| <b>Chemical Name:</b>  | Ammonium Hydroxide   | <b>CAS Number:</b> | 1336-21-6        |
| <b>Manufacturer's Name:</b><br>Southern Ionics Incorporated<br>579 Commerce Street<br>West Point, MS 39773<br>Customer Service: 1-800-953-3585<br>Web Site: <a href="http://www.southernionics.com">www.southernionics.com</a> | <b>Emergency Contacts:</b><br>Afterhours (Southern Ionics):<br>1-888-610-2379<br>For Chemical Emergency, Spill, or Accident<br>Call CHEMTREC at 1-800-424-9300<br>CHEMTREC CCN - 20596 |                    |                  |

### II. Hazard Identification

|   |   |
|---|---|
| <b>OSHA HCS / GHS Classification(s):</b>  | <b>Hazard Statement(s):</b>   |
| 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 Asphyxiant   | May displace oxygen and cause rapid suffocation.  |
| Acute Aquatic Toxicity, Category 3  | Harmful to aquatic life.  |
| <b>Signal Word:</b><br>Danger   | <b>Precautionary Statement(s):</b>  |
| <b>Symbol(s):</b><br>   | <b>Prevention:</b>  |
|   | Wash affected body parts thoroughly after handling.   |
|   | Do not eat, drink, or smoke when using this product.  |
|   | Wear eye and face protection.   |
|   | Wear protective gloves and clothing.  |
|   | Do not breathe mist, vapors, or spray.  |
|   | Avoid release to the environment.   |
|   | <b>Response:</b>  |
|   | 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. Accidental Release Measures.   |   |
| For specific treatment, see Section IV. First Aid Measures.   |   |

### III. Composition / Information on Ingredients

| Chemical Name(s):          | CAS Number(s): | %         |
|----------------------------|----------------|-----------|
| Ammonia (NH <sub>3</sub> ) | 7664-41-7      | 20 - 30.5 |
| Water                      | 7732-18-5      | Balance   |

#### IV. First Aid Measures

|                       |   |
|-----------------------|---|
| <b>Eyes:</b>          | 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. |
| <b>Dermal / Skin:</b> | Remove contaminated clothing and wash exposed area thoroughly with soap and water. Seek medical attention, if you feel unwell.                                  |
| <b>Inhalation:</b>    | Move to fresh air immediately. If breathing is difficult, give oxygen. Seek medical attention, if you feel unwell.  |
| <b>Ingestion:</b>     | If swallowed, DO NOT induce vomiting. Rinse mouth. Seek medical attention, if you feel unwell.  |

#### V. Fire Fighting Measures

|   |  |            |                     |                              |
|---|--|------------|---------------------|------------------------------|
| <b>NFPA Hazard Rating:</b>  | Health (Blue)  | Fire (Red) | Reactivity (Yellow) | Special Instructions (White) |
|   | 3  | 1          | 0                   | None                         |
| <b>NFPA Hazard Classification: 0 = Least 1 = Slight 2 = Moderate 3 = High 4 = Extreme</b> |  |            |                     |                              |
| <b>Extinguishing Media:</b>   | Use extinguishing media appropriate for surrounding fire (Not CO <sub>2</sub> ).   |            |                     |                              |
| <b>Special Firefighting Procedure:</b>  | 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.   |            |                     |                              |
| <b>Unusual Fire and Explosion Hazards:</b>  | 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

|   |   |
|---|---|
| <b>Precaution if Spilled or Released:</b> | 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. |
| <b>Neutralizing Chemicals:</b>            | Neutralization with acid not recommended. Flush area with water.  |

#### VII. Handling and Storage

|                  |   |
|------------------|---|
| <b>Handling:</b> | 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.  |
| <b>Storage:</b>  | 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 <sub>3</sub>  | 7664-41-7  | TWA                | 25 ppm                   | as Ammonia NH <sub>3</sub> (ACGIH) |
| <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>General Hygiene:</b>  | Practice good personal hygiene after using this material, especially before eating, drinking, smoking, or using the toilet.  |                    |                          |                                    |
| Personal Protection Equipment:   |  |                    |                          |                                    |
| <b>Eye:</b>  | 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.                   |                    |                          |                                    |
| <b>Skin:</b>   | 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. |                    |                          |                                    |
| <b>Respiratory:</b>  | None required under normal conditions. When conditions warrant a respirator, use NIOSH-approved respirator and cartridge for particulates and ammonia.   |                    |                          |                                    |
| <b>Other Protective Items:</b>   | 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                          |
| <b>Hazard Classification: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe</b> |  |                    |                          |                                    |

## IX. Physical and Chemical Properties

|   |   |                                |   |
|---|---|--------------------------------|---|
| <b>Physical State:</b>                      | Liquid  | <b>pH:</b>                     | >12   |
| <b>Appearance:</b>                          | Clear, colorless liquid   | <b>Molecular Weight:</b>       | 35.05   |
| <b>Odor:</b>                                | Pungent odor  | <b>Odor Threshold:</b>         | 1-50 ppm  |
| <b>Specific Gravity: (H<sub>2</sub>O=1)</b> | 0.93 (20 % Solution)<br>0.91 (25 % Solution)<br>0.89 (30.5 % Solution)<br>@ 60 °F / 15.5 °C | <b>Weight per Gallon:</b>      | 7.76 (20 % Solution)<br>7.60 (25 % Solution)<br>7.43 (30.5 % Solution)<br>lbs @ 60 °F / 15.5 °C |
| <b>Vapor Density: (Air=1)</b>               | 0.60 @ 32 °F / 0 °C   | <b>Vapor Pressure:</b>         | 272 mm Hg (20 %)<br>460 mm Hg (25 %)<br>705 mm Hg (30.5 %)<br>@ 77 °F / 25 °C                   |
| <b>Boiling Point:</b> at 14.7 psia          | 78 °F / 25.5 °C (30.5 %)<br>118 °F / 47.8 °C (20 %)   | <b>Freezing/Melting Point:</b> | -36 °F / -38 °C (20 %)<br>-120 °F / -84 °C (30.5 %)   |
| <b>Lower Explosive Limit:</b>               | 16 % by volume of ammonia gas   | <b>Upper Explosive Limit:</b>  | 25 % by volume of ammonia gas   |
| <b>Flash Point:</b>                         | N/A   | <b>Autoignition Temp:</b>      | 1,204 °F / 651 °C (vapor)   |
| <b>Solubility in water:</b>                 | 100 %   | <b>Other:</b>                  |   |

## X. Stability and Reactivity Data

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

## XI. Toxicological Information

|                                       |  |            |             |             |               |             |                |
|---------------------------------------|--|------------|-------------|-------------|---------------|-------------|----------------|
| <b>Routes of Entry:</b>               | <input checked="" type="checkbox"/> Eyes <input checked="" type="checkbox"/> Skin <input checked="" type="checkbox"/> Ingestion <input checked="" type="checkbox"/> Inhalation   |            |             |             |               |             |                |
| <b>Sign and Symptoms of Exposure:</b> | 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.   |            |             |             |               |             |                |
| <b>Eye Contact:</b>                   | Vapor is irritating to the eyes. Liquid will cause burns.  |            |             |             |               |             |                |
| <b>Ingestion:</b>                     | Ingestion causes burning pain in mouth, throat, stomach, and 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.  |            |             |             |               |             |                |
| <b>Skin Contact:</b>                  | 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.<br>Contact: Causes smarting of the skin and first-degree burns on short exposure. May cause second-degree burns on long exposure. |            |             |             |               |             |                |
| <b>Inhalation:</b>                    | Ammonia vapors are highly irritating to the throat at approximately 400 ppm. Causes edema, dyspnoea, bronchospasm, chest pain, pink frothy sputum. Inhalation of $\geq 500$ ppm ammonia is considered immediately dangerous to life and health (OSHA).   |            |             |             |               |             |                |
| <b>Carcinogenicity:</b>               | Not Listed   | <b>NPT</b> | Not Listed  | <b>IARC</b> | Not Listed    | <b>OSHA</b> | Not Regulated  |
| <b>Ingredient Name:</b>               | <b>Species</b>   |            | <b>Test</b> |             | <b>Period</b> |             | <b>Results</b> |
| Ammonium Hydroxide                    | Rat  |            | 350 mg/kg   |             | Oral          |             | LD50           |
| <b>Comments:</b>                      |  |            |             |             |               |             |                |

## XII. Ecological Information

|                         |   |             |               |                |
|-------------------------|---|-------------|---------------|----------------|
| <b>Ingredient Name:</b> | <b>Species</b>  | <b>Test</b> | <b>Period</b> | <b>Results</b> |
| Ammonium Hydroxide      | Daphnia magna   | 32 mg/L     | 50 hrs        | LC50           |
| <b>Comments:</b>        | 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

|                        |  |
|------------------------|--|
| <b>Waste Disposal:</b> | Always dispose of material in accordance with local, state, and federal regulations. |
|------------------------|--|

### XIV. Transportation Information

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

### XV. Regulatory Information

|                                   |           |                        |   |    |  |
|-----------------------------------|-----------|------------------------|---|----|--|
| <b>Inventory Status:</b>          |           | <b>US Regulations:</b> |   |    |  |
| U. S. TSCA                        | Yes       | SARA 302 TPQ           | 500 lbs as ammonia NH <sub>3</sub>  |    |  |
| Europe EINECS                     | Yes       | SARA 304 RQ            | 100 lbs as ammonia NH <sub>3</sub>  |    |  |
| 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       | CAA-112r (RMP)         | 20,000 lbs as ammonia (concentration 20% or greater)  |    |  |
| Australian AICS                   | Yes       | DHS CFATS              | Chemical Facility Antiterrorism Standards (6 CFR 27)  |    |  |
|                                   |           | SARA 311/312           | <input checked="" type="checkbox"/> Acute <input type="checkbox"/> Chronic <input type="checkbox"/> Fire <input type="checkbox"/> Release of Pressure <input type="checkbox"/> Reactive |    |  |
| <b>International Regulations:</b> |           |                        | <b>Other Regulations:</b>   |    |  |
| EINECS                            | 231-635-3 | as Anhydrous Ammonia   | California PROP 65  | No |  |
| EINECS                            | 215-647-6 | as Aqua Ammonia        |   |    |  |
| <b>Comments:</b>                  |           |                        |   |    |  |

### XVI. Other Information

|                           |   |
|---------------------------|---|
| <b>Other:</b>             |   |
| <b>Revision Notes:</b>    | 09.25.20 Reviewed as part of a 3-year review process. Updated logo and formatting.<br>12.07.20 Section XV. Regulatory Information corrected wording of US Regulation description of CAA-112r(RMP) from 20,000 lbs Ammonia NH <sub>3</sub> to 20,000 lbs Ammonia (concentration 20% or greater). |
| <b>MSDS Replacements:</b> |   |

#### 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

#### IMPORTANT

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