

# Safety Data Sheet

## SECTION 1 – IDENTIFICATION

### Name, Address, and Telephone of the Responsible Party

#### Dyno Nobel Inc.

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**SDS #:** 1130

**Date:** 10/12/2015

Supersedes: 05/19/2012

### Product Identifier

**Product Form:** Mixture

**Product Name:** Aqua Ammonia

### Other Means of Identification

#### Synonyms:

Ammonia Solutions

Ammonium Hydroxide

High Strength Aqua Ammonia (30% NH<sub>3</sub>)

Regular Strength Aqua Ammonia (19% NH<sub>3</sub>)

### Intended Use of the Product

Professional industrial applications.

### Emergency Telephone Number

**FOR 24 HOUR EMERGENCY, CALL CHEMTREC (USA) 800-424-9300**

**CANUTEC (CANADA) 613-996-6666**

## SECTION 2 – HAZARD(S) IDENTIFICATION

### Classification of the Substance or Mixture

#### Classification (GHS-US)

Acute Tox. 4 (Oral)

H302

Skin Corr. 1B

H314

Eye Dam. 1

H318

Aquatic Acute 1

H400

#### Label Elements

#### GHS-US Labeling

#### Hazard Pictograms (GHS-US)



#### Signal Word (GHS-US)

: Danger

#### Hazard Statements (GHS-US)

: H302 - Harmful if swallowed.  
H314 - Causes severe skin burns and eye damage.  
H318 - Causes serious eye damage.  
H400 - Very toxic to aquatic life.

#### Precautionary Statements (GHS-US)

: P260 - Do not breathe vapors, mist, or spray.  
P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.  
P270 - Do not eat, drink or smoke when using this product.  
P273 - Avoid release to the environment.  
P280 - Wear protective gloves, protective clothing, and eye protection.  
P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting.  
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated

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clothing. Rinse skin with water/shower.

P304+P340 - IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P321 - Specific treatment (see section 4 on this SDS).

P363 - Wash contaminated clothing before reuse.

P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

## Other Hazards

**Hazards Not Otherwise Classified (HNOC):** Not available

**Other Hazards:** Exposure may aggravate individuals with pre-existing skin, kidney, liver, and pulmonary disorders. Flammable vapors can accumulate in head space of closed systems.

## SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

### Mixture

Name	Product identifier	% (w/w)	Ingredient Classification (GHS-US)
Water	(CAS No) 7732-18-5	65 - 90	Not classified
Ammonium hydroxide	(CAS No) 1336-21-6	10 - 35	Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 1, H400

Ingredients, other than those mentioned above, as used in this product are not hazardous as defined under current Department of Labor regulations, or are present in de minimus concentrations (less than 0.1% for carcinogens, less than 1.0% for other hazardous materials).

Full text of H-phrases: see section 16

## SECTION 4 - FIRST AID MEASURES

### Description of First Aid Measures

**General:** Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.

**Inhalation:** When symptoms occur: go into open air and ventilate suspected area. If inhaled, remove to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor.

**Skin Contact:** Remove contaminated clothing. Drench affected area with water for at least 60 minutes. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or doctor.

**Eye Contact:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 60 minutes. Immediately call a POISON CENTER or doctor.

**Ingestion:** Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor.

**General:** Corrosive to eyes, respiratory system and skin. Harmful if swallowed.

**Inhalation:** Corrosive to mucus membranes. The gas is extremely irritating to mucous membranes and lung tissue. Coughing, chest pain, and difficulty in breathing may result. Prolonged exposure may result in bronchitis, pulmonary edema, and chemical pneumonitis. Breathing high concentrations may result in death.

**Skin Contact:** Repeated exposure to this material can result in absorption through skin causing significant health hazard. Causes severe skin burns.

**Eye Contact:** Causes serious eye damage.

**Ingestion:** Harmful if swallowed. May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

### Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention.

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## SECTION 5 - FIRE-FIGHTING MEASURES

### Extinguishing Media

**Suitable Extinguishing Media:** Water spray, fog, alcohol-resistant foam.

**Unsuitable Extinguishing Media:** Do not use a heavy water stream. A heavy water stream may spread burning liquid. Do not use carbon dioxide, ammonia will react with carbon dioxide to form a dense white cloud.

### Special Hazards Arising From the Substance or Mixture

**Fire Hazard:** Not considered flammable but may burn at high temperatures.

**Explosion Hazard:** If exposed to elevated temperatures, Aqua Ammonia will release Ammonia gas. Although classified nonflammable, Ammonia does have an explosive range. Ammonia can be a dangerous fire and explosion hazard when mixed with air.

**Reactivity:** Hazardous reactions will not occur under normal conditions.

### Advice for Firefighters

**Precautionary Measures Fire:** Exercise caution when fighting any chemical fire.

**Firefighting Instructions:** Use water spray or fog for cooling exposed containers.

**Protection During Firefighting:** Do not enter fire area without proper protective equipment, including respiratory protection.

**Hazardous Combustion Products:** Ammonia and oxides of Nitrogen (Nitrogen Dioxide, Nitric Oxide).

**Other Information:** Do not allow run-off from fire fighting to enter drains or water courses.

**Reference to Other Sections:** Refer to section 9 for flammability properties.

## SECTION 6 - ACCIDENTAL RELEASE MEASURES

### Personal Precautions, Protective Equipment and Emergency Procedures

**General Measures:** Avoid all eyes and skin contact and do not breathe vapor and mist.

#### For Non-Emergency Personnel

**Protective Equipment:** Use appropriate personal protection equipment (PPE).

**Emergency Procedures:** Evacuate unnecessary personnel.

#### For Emergency Personnel

**Protective Equipment:** Equip cleanup crew with proper protection.

**Emergency Procedures:** Ventilate area.

### Environmental Precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

### Methods and Material for Containment and Cleaning Up

**For Containment:** Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

**Methods for Cleaning Up:** Clean up spills immediately and dispose of waste safely. Spills should be contained with mechanical barriers. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

### Reference to Other Sections

See Heading 8. Exposure controls and personal protection. For further information refer to section 13.

## SECTION 7 - HANDLING AND STORAGE

### Precautions for Safe Handling

**Hygiene Measures:** Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Do not eat, drink or smoke when using this product. Wash hands and forearms thoroughly after handling.

### Conditions for Safe Storage, Including Any Incompatibilities

**Technical Measures:** Comply with applicable regulations.

**Storage Conditions:** Keep/Store away from extremely high or low temperatures, ignition sources, direct sunlight, and incompatible materials. Store in a well-ventilated place. Keep container tightly closed.

**Incompatible Materials:** Strong acids. Strong bases. Strong oxidizers. Chlorine, bromine, pentafluoride, nitrogen trifluoride, mercury, silver oxide, calcium, and chlorides of iron. Do not use copper, brass, bronze, or galvanized steel in Aqua Ammonia service.

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## SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), NIOSH (REL), or OSHA (PEL).

### Exposure Controls

**Appropriate Engineering Controls:** Ensure adequate ventilation, especially in confined areas. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure all national/local regulations are observed.

**Personal Protective Equipment:** Avoid all unnecessary exposure. Protective goggles. Corrosionproof clothing. Gloves. Face shield.



**Materials for Protective Clothing:** Chemically resistant materials and fabrics. Corrosionproof clothing.

**Hand Protection:** Wear protective gloves. Wear chemically resistant protective gloves.

**Eye Protection:** Chemical safety goggles and face shield.

**Skin and Body Protection:** Corrosionproof clothing.

**Respiratory Protection:** in case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.

**Environmental Exposure Controls:** Do not allow the product to be released into the environment.

**Consumer Exposure Controls:** Do not eat, drink or smoke during use

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

### Information on Basic Physical and Chemical Properties

Physical State	: Liquid
Appearance	: Colorless liquid
Odor	: Pungent and extremely irritating odor
Odor Threshold	: Not available
pH	: Not available
Evaporation Rate	: Not available
Melting Point	: Not available
Freezing Point	: Not available
Boiling Point	: 27 - 49 °C (80.6 - 120 °F)
Flash Point	: Not available
Auto-ignition Temperature	: Not available
Decomposition Temperature	: Not available
Flammability (solid, gas)	: Not available
Lower Flammable Limit	: 16 %
Upper Flammable Limit	: 25 %
Vapor Pressure	: 4.5 - 11.0 psia @ 20°C (68°F)
Relative Vapor Density at 20 °C	: 0.6 (air = 1) for gaseous ammonia
Relative Density	: Not available
Specific Gravity	: 0.89 - 0.93 g/cc (7.45 - 7.75 lb/gal)
Solubility	: Water: infinitely soluble
Partition Coefficient: N-Octanol/Water	: Not available
Viscosity	: Not available

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<b>Explosion Data – Sensitivity to Mechanical Impact</b>	: Not expected to present an explosion hazard due to mechanical impact.
<b>Explosion Data – Sensitivity to Static Discharge</b>	: Not expected to present an explosion hazard due to static discharge.

## SECTION 10 - STABILITY AND REACTIVITY

<b>Reactivity:</b>	Hazardous reactions will not occur under normal conditions.
<b>Chemical Stability:</b>	Stable under recommended handling and storage conditions (see section 7).
<b>Possibility of Hazardous Reactions:</b>	Hazardous polymerization will not occur.
<b>Conditions to Avoid:</b>	Direct sunlight, extremely high or low temperatures, heat, hot surfaces, sparks, open flames, incompatible materials, and other ignition sources.
<b>Incompatible Materials:</b>	Strong acids. Strong bases. Strong oxidizers. Chlorine, bromine, pentafluoride, nitrogen trifluoride, mercury, silver oxide, calcium, and chlorides of iron. Do not use copper, brass, bronze, or galvanized steel in Aqua Ammonia service.
<b>Hazardous Decomposition Products:</b>	Ammonia and oxides of Nitrogen (Nitrogen Dioxide, Nitric Oxide).

## SECTION 11 - TOXICOLOGICAL INFORMATION

### Information on Toxicological Effects - Product

**Acute Toxicity:** Oral: Harmful if swallowed.

### LD50 and LC50 Data:

#### 1130 Aqua Ammonia

<b>ATE US (oral)</b>	1,000.00 mg/kg body weight
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**Skin Corrosion/Irritation:** Causes severe skin burns and eye damage.

**Serious Eye Damage/Irritation:** Causes serious eye damage.

**Respiratory or Skin Sensitization:** Not classified

**Germ Cell Mutagenicity:** Not classified

**Teratogenicity:** Not available

**Carcinogenicity:** Not classified

**Specific Target Organ Toxicity (Repeated Exposure):** Not classified

**Reproductive Toxicity:** Not classified

**Specific Target Organ Toxicity (Single Exposure):** Not classified

**Aspiration Hazard:** Not classified

**Symptoms/Injuries Inhalation:** Corrosive to mucus membranes. The gas is extremely irritating to mucous membranes and lung tissue. Coughing, chest pain, and difficulty in breathing may result. Prolonged exposure may result in bronchitis, pulmonary edema, and chemical pneumonitis. Breathing high concentrations may result in death.

**Symptoms/Injuries Skin Contact:** Repeated exposure to this material can result in absorption through skin causing significant health hazard. Causes severe skin burns.

**Symptoms/Injuries Eye Contact:** Causes serious eye damage.

**Symptoms/Injuries Ingestion:** Harmful if swallowed. May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

### Information on Toxicological Effects - Ingredient(s)

#### LD50 and LC50 Data:

#### Ammonium hydroxide (1336-21-6)

<b>LD50 Oral Rat</b>	350 mg/kg
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## SECTION 12: ECOLOGICAL INFORMATION

**Toxicity** Not classified

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<b>Ammonium hydroxide (1336-21-6)</b>	
LC50 Fish 1	8.2 mg/l (Exposure time: 96 h - Species: Pimephales promelas)
EC50 Daphnia 1	0.66 mg/l (Exposure time: 48 h - Species: water flea)
EC50 Daphnia 2	0.66 mg/l (Exposure time: 48 h - Species: Daphnia pulex)
<b>Persistence and Degradability</b>	
1130 Aqua Ammonia	
Persistence and Degradability	Not established.
<b>Bioaccumulative Potential</b>	
1130 Aqua Ammonia	
Bioaccumulative Potential	Not established.
Mobility in Soil Not available	
<b>Other Adverse Effects</b>	
<b>Other Information:</b> Avoid release to the environment.	

## SECTION 13 - DISPOSAL CONSIDERATIONS

**Waste Disposal Recommendations:** Dispose of contents/container in accordance with local, regional, national, provincial, territorial and international regulations.

**Additional Information:** Aqua Ammonia is an immediate poison to marine life. Vegetation, insects, reptiles, fish and small mammals contacted by Aqua Ammonia (or a large gaseous Ammonia vapor clouds released by heat) will likely die. Post spill conservation measures may be required. Minimize runoff to watersheds by diking, containment or absorption. Contaminated dirt may be spread as a fertilizer.

## SECTION 14 - TRANSPORT INFORMATION

**"RQ" required only if container (drum, rail tank car, etc.) has 100 pounds or more of Aqua Ammonia at >20% strength or 1,000 pounds or more at <20% strength.**

### In Accordance with DOT

**Proper Shipping Name** : AMMONIA SOLUTION (relative density between 0.880 and 0.957 at 15 degrees C in water, with more than 10 percent but not more than 35 percent ammonia)

**Hazard Class** : 8

**Identification Number** : UN2672

**Label Codes** : 8

**Packing Group** : III

**ERG Number** : 154

### In Accordance with IMDG

**Proper Shipping Name** : AMMONIA SOLUTION

**Hazard Class** : 8

**Identification Number** : UN2672

**Packing Group** : III

**Label Codes** : 8

**EmS-No. (Fire)** : F-A

**EmS-No. (Spillage)** : S-B

### In Accordance with IATA

**Proper Shipping Name** : AMMONIA SOLUTION

**Packing Group** : III

**Identification Number** : UN2672

**Hazard Class** : 8

**Label Codes** : 8

**ERG Code (IATA)** : 8L

### In Accordance with TDG



# Safety Data Sheet

**Proper Shipping Name** : AMMONIA SOLUTION  
**Packing Group** : III  
**Hazard Class** : 8  
**Identification Number** : UN2672  
**Label Codes** : 8



## SECTION 15 - REGULATORY INFORMATION

### US Federal Regulations

#### Aqua Ammonia

**SARA Section 311/312 Hazard Classes** : Immediate (acute) health hazard

#### Ammonium hydroxide (1336-21-6)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

**SARA Section 311/312 Hazard Classes** : Immediate (acute) health hazard

#### Water (7732-18-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

### US State Regulations

#### Water (7732-18-5)

#### Ammonium hydroxide (1336-21-6)

U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities  
 U.S. - Louisiana - Reportable Quantity List for Pollutants  
 U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1  
 U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2  
 U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity  
 U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1  
 U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2  
 RTK - U.S. - Massachusetts - Right To Know List  
 U.S. - Massachusetts - Toxics Use Reduction Act  
 U.S. - Michigan - Polluting Materials List  
 U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances  
 RTK - U.S. - New Jersey - Right to Know Hazardous Substance List  
 U.S. - New Jersey - Special Health Hazards Substances List  
 U.S. - New Jersey - TCPA - Extraordinarily Hazardous Substances (EHS)  
 U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances  
 RTK - U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List  
 RTK - U.S. - Pennsylvania - RTK (Right to Know) List  
 U.S. - Texas - Effects Screening Levels - Long Term  
 U.S. - Texas - Effects Screening Levels - Short Term

#### Ammonium hydroxide (1336-21-6)

U.S. - Massachusetts - Right To Know List  
 U.S. - New Jersey - Right to Know Hazardous Substance List  
 U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List  
 U.S. - Pennsylvania - RTK (Right to Know) List

### Canadian Regulations

#### Aqua Ammonia

**WHMIS Classification** : Class E - Corrosive Material  
 Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects

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## Ammonium hydroxide (1336-21-6)

Listed on the Canadian DSL (Domestic Substances List)

Listed on the Canadian IDL (Ingredient Disclosure List)

IDL Concentration 1 %

WHMIS Classification

Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects

Class E - Corrosive Material

Class D Division 2 Subdivision B - Toxic material causing other toxic effects

## Water (7732-18-5)

Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification

Uncontrolled product according to WHMIS classification criteria

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

## SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date : 05/19/2015

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

### GHS Full Text Phrases:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Skin Corr. 1B	Skin corrosion/irritation Category 1B
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H335	May cause respiratory irritation
H400	Very toxic to aquatic life

### Party Responsible for the Preparation of This Document

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