ANCO CHEMICALS INC.
85 MALMO COURT, MAPLE, ONTARIO L6A 1R4
(905) 832-2276 .FAX (905) 832-3701
www.ancochemicals.com

MATERIAL SAFETY DATA SHEET page 1 of 5

1.Product Identification: **Ammonia Solution** (Aqua Ammonia 10-20%)

Effective Date: Jan. 22, 2016

24 Hour Emergency Numbers
CANUTEC'S # 613-996-6666(call collect**)**
OR *666 cellular

Anco Chemicals Inc.
85, Malmo Court
Maple, ON, L6A 1R4
Tel. 905-832-2276

Chemical Name: Ammonia Solution
Synonyms: Ammonia Hydrate
Chemical Family: Not applicable
Molecular Formula: NH_4OH (Ammonium Hydroxide)
Product Use: Fertilizer, Neutralizing Agent in Industry, Household Cleaners
Product Covered: 10-20% NH_3 Ammonia Solutions CAS# 1336-21-6
Published: Anco Chemicals Inc., Quality Control Department, Tel: 905-832-2276 x 233 by Sat Anand
WHMIS Classification: D.1B, E

2.Hazardous Ingredients of Product

Hazardous Ingredients:	%	ACGIH TLV	CAS. No.
Anhydrous Ammonia	10-20	25 PPM as NH_3	7664-41-7
Other Ingredients			
Deionized Water	80-90%		007732-18-5

Canadian TDG Shipping Description

Shipping Name : Ammonia Solution
Shipping Class/ Division: 8
Product Identification #: UN2672
Packing Group: III

3.Physical Properties

Appearance & Odour: Colourless liquid with a pungent irritating odour.
Odour Threshold: 2 – 5 PPM Anhydrous w/w air.
Boiling Point: 70°C (at 10%) to 47.8°C (at 20%)
Melting/Freezing Point: -15°C (at 10%) to –37°C (at 20%)
Vapour Pressure: 1.5 psi (at 10%) to 3.75 psi (20%) @ 15°C.

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Vapour Density: 0.6 for Ammonia (Air=1).
Bulk Density: Not applicable.
Evaporation Rate: Not applicable.
Solubility: 100% Soluble in Water, also Soluble in Methanol and Ethanol.
Volatile by Volume: No Data.
pH: 12.0 (neat).
Coefficient of Water/Oil Distribution: Not Available.
Sensitivity to Mechanical Impact: Not Available.

Rate of Burning: Not Available
Explosive Power: Not Available
Sensitivity to Static Discharge: Not Available

4.Reactivity Data:

Stability: Under Normal Conditions: Will liberate Ammonia Vapours
Under Fire Conditions: Will liberate Ammonia Vapours
Hazardous Polymerization: Will not occur
Conditions to Avoid: Excessive Heat
Materials to Avoid: Contact with strong oxidizers will cause fire and explosions. Contact with iodine, bromine, calcium, hypo-chlorite mixtures, contact with halogens may cause violent spattering.
Hazardous Decomposition or Combustion Products: None known.

5.Fire & Explosion Data:

Flash Point: Not applicable
Autoignition Temperature: 651^0C
Flammability Limits in Air: UEL: 25 LEL: 16 (ammonia gas)
Fire Extinguishing Media: CO2, Dry Chemical, Water Spray
Fire Fighting Procedures: Use water to keep fire-exposed containers cool. Use water fog to reduce concentration if necessary. Full protective equipment, including a self-contained breathing apparatus, should be worn in a fire involving the material.
Other Fire or Explosion Hazards: Contact with strong oxidizers will cause fires or explosions.

6.Toxicological and Health Data:

Recommended Exposure Limit: ACGIH TLV-TWA: 25 PPM
Toxicological Data: Ammonia LD50 (oral, rat) = 350mg/kg (1)
LD50 (inhalation, mouse) = 2115 PPM for 4 hr.
Carcinogenicity Data: The ingredients of this product are not listed as carcinogens by NTP, (National Toxicology Program), not regulated as carcinogens by OSHA, (Occupational Safety & Health Administration), and have not been evaluated by IARC, (International Agency for research on Cancer or ACGIH (American Conference of Governmental Industrial Hygienists).

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Reproductive Effects: No information is available and no adverse reproductive effects are anticipated.
Mutagenicity Data: No information is available and no adverse mutagenic effects are anticipated.
Teratogenicity Data: No information is available and no adverse teratogenic effects are anticipated.
Synergistic Materials: None known

Effects of Exposure When:
Inhaled: Corrosive! Inhalation of ammonia gas can cause irritation and inflammation of the respiratory system resulting in hoarseness and tightness of the throat, laryngitis, tracheitis, bronchopneumonia and pulmonary edema. Productive cough with blood stained sputum may develop. Airway obstruction and diminished diffusion capacity and impaired ciliary function may result from overexposure. Chronic lung disease or residual dysfunction is possible if overexposure has caused lower airway injury.
In Contact With Skin: Corrosive! Skin irritation and burns may occur after direct contact with anhydrous ammonia, solutions or concentrated ammonia gas. Burns may be severe and possible fatal. See "Other Health Effects" section.
Ingested: Corrosive! May cause severe pain in the mouth, chest, and abdomen, leading to cough, vomiting and collapse. Gastric or esophageal perforation may occur and lung irritation or edema may occur as a delayed effect.
Other Health Effects: Corrosive! Effects on the skin and eyes may be delayed, and damage may occur without the sensation or onset of pain. Strict adherence to first aid measures following any exposure is essential.

7.First Aid Procedures:

Inhaled: Move victim to fresh air. If not breathing give artificial respiration. Keep the patient warm and at rest. Obtain medical attention immediately.
In Contact with the Skin: Flush skin with running water for at least 15 minutes. Start flushing while removing contaminated clothing. If irritation persists, repeat flushing. Obtain medical attention immediately. Do not transport victim unless recommended flushing period is completed or flushing can be continued during transport.
In Contact with the Eyes: Immediately flush eyes with running water for a minimum of 15 minutes and repeat process every 10 minutes till medical attention is obtained. Hold eyelids open during flushing. Do not transport victim until the recommended flushing period is completed unless flushing can be continued during transport. Be sure to obtain medical attention immediately.
Ingested: If victim is alert and not convulsing, rinse out mouth and give ½ to 1 glass of water to dilute material. Do not induce vomiting. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing vomits, rinse mouth and administer more water. Immediately transport victim to an emergency facility.

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Emergency Medical Care: Pulmonary edema may be delayed. Injury may be more severe than would be indicated on early presentation. Medical conditions that may be aggravated by exposure include asthma, bronchitis, emphysema and other lung diseases and chronic nose, sinus or throat conditions. In the event of skin or eye contact, rapid and through flushing is essential.

8.Preventive Measures:

Recommendations listed in this section indicate the type of equipment which will provide protection against overexposure to this product. Conditions of use, adequacy of
Engineering or other control measures and actual exposures will dictate the need for specific protective devices at your workplace.

Engineering Contacts: Local exhaust ventilation required. Confined space entry needs a special training.
Respiratory Protection: NOISH/MSHA approved full-face air-purifying respirator equipped with ammonia cartridges for concentrations up to 250 PPM NH3. Air-supplied
Respirator for concentrations, that is higher or unknown.
Skin Protection: Rubber gloves and protective clothing should be used.
Eye Protection: Use gas-tight chemical safety goggles when there is potential for eye contact.
Other Personal Protective Equipment: Face shields, boots, coat, and pants should be worn, depending on exposure.
Handling Procedures and Equipment: Keep out of sun and away from all direct heat sources. The material will attack copper, tin, zinc and their alloys; some forms of rubber, plastics and coatings.
Storage Temperature (C): Ambient
Storage Requirements: Store in a cool, dry, well ventilated area away from incompatibles.
Environmental Protection Data:
Steps to be taken in the event of spill or a leak: Stop the discharge if possible. Construct barriers (dikes, lagoons) to contain run off for reclaim, neutralization or disposal. Downwind evacuation may be necessary. Report significant spills (>5 Ltr or 5 Kg) to government environmental authorities.
Environmental Effects: Ammonia is harmful to aquatic life even at low concentrations (96 hour Tlm=1-10ppm). Does not bio-accumulate.
Deactivating Chemicals: Dilute acid. Neutralize to PH of 6 to 9.
Waste Disposal Methods: Reclaim as fertilizer if possible. Otherwise dispose of at an approved landfill site or by incineration in accordance with local, provincial or federal regulations. Do not dispose of wastes with normal garbage or in local sewerage system.

9. Other Information (Preparation Information)

Prepared by the Quality Department at Anco Chemicals Inc. by Sat Anand at 905-832-2276 x 233.

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Additional Information and Sources Used:

1.RTEC-S Registry of Toxic effects of Chemical substances, On-line search, Canadian Centre for Occupational Safety & Health, US Department of Health and Human Services, Cincinnati, 1992.
2.Patty's Industrial hygiene and toxicology, Vol I,II A,B,C, and Vol III A, B, Lewis J. Cralley, Lester V Crailly, Ed., John Wiley & Sons, New York, 2nd Ed., 1985.
3.Hazardous Material Spill Manual, Que. 1977.
4.NOISH, Criteria for a Recommended Standard to Ammonia.
5.Emergency Response Guide For Dangerous Goods Canutec 2nd. Ed, 1982.
6. Clear Language TDGR (effective Aug. 15, 2002)