MATERIAL SAFETY DATA SHEET Page: 1 of 4

NATIONAL SANITARY SUPPLY CO. 13217 S. Figueroa Street Los Angeles, California 90061 Emergency No. 1-800-535-5053 (INFOTRAC) Call nearest Sales Office for MSDS Information

SECTION 1. IDENTIFICATION OF PRODUCT

Product Name: AMMONIA CLEAR Date Issued: 10/07/92 Chemical Name: AMMONIUM HYDROXIDE,AQUA AMMONIA Supercedes: 08/01/89 AQUA AMMONIA National Item#: 2606XX

SECTION 2. INGREDIENTS CAS# % EXPOSURE LIMITS IN AIR ACGIH TLV OSHA PEL OTHER:

AMMONIA (as NH3)	7664-41-7	25 ppm	50 ppm
SUDSY	3.75		
PURE	4.0		

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SECTION 3. PHYSICAL PROPERTIES

Vapor Density (Air=1): N/A Melting Point or Range,F: N/A Specific Gravity: 0.975-0.995 Boiling Point or Range,F: 191-212 Solubility in Water: 100% Evaporation Rate (Butyl Acetate=1): NA Vapor Pressure, mm Hg @20C: N/A Appearance and Odor: CLEAR OR CLOUDY WHITE LIQUID WITH DISINCT AMMONIA ODOR.

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Section 4. FIRE AND EXPLOSION DATA

Flash Point,F(Give Method): NONE FLAMMABLE Flammable Limits in air, volume%: Lower: 16% as NH Upper: 27% as NH Fire Extinguishing Materials: 3 3 Water Spray: X Carbon Dioxide: X Foam: X Dry Chemical: X Other: Special Firefighting procedures: IF POSSIBLE, MOVE PRODUCT FROM FIRE AREA. COOL FIRE EXPOSED CONTAINERS WITH WATER SPRAY. Unusual Fire & Explosion Hazards: NEGLIGIBLE FIRE AND EXPLOSION HAZARD. HOWEVER, IF AMMONIA GAS IS EVOLVED, IT IS FLAMMABLE.

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SECTION 5. REACTIVITY DATA

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Stability: STABLE Conditions to Avoid: HEAT Incompatibility (materials to avoid): CHLORINE, BROMINE, IODINE, HYPOCHLORITE, MINÉRIAL ACIDS. VIOLENT REACTIONS MAY OCCUR WITH INCOMPATIBLE MATERIALS RELEASING IRRITATING OR TOXIC GASES. Hazardous Decomposition Products (including combustion products): TOXIC OXIDE OF NITRÖGEN AND AMMONIA GAS. Hazardous Polymerization: WILL NOT OCCUR: 

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SECTION 6. SPILL OR LEAK PROCEDURES

\_\_\_\_\_ Spill Response Procedures (include employee protection measures): FLUSH AWAY SMALL QUANTITIES OF SPILLED PRODUCT WITH WATER WHEN VAPORS WILL PERMIT. AVOID EYE CONTACT. AVOID REPEATED OR PROLONGED SKIN CONTACT. AVOID BREATHING VAPORS. Preparing Wastes for Disposal (Container Types, Neutralization, etc.): DILUTE WITH WATER AND FLUSH TO SEWER IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS. Note: DISPOSE OF ALL WASTES IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.

SECTION 7. HEALTH HAZARD INFORMATION

Inhaled: MILD EXPOSURE TO AMMONIA VAPORS MAY CAUSE IRRITATION OF THE NOSE. THROAT, COUGHING AND SNEEZING. A MORE SEVERE EXPOSURE MAY CAUSE RESPIRATORY IRRITATION, DYSPNEA, PULMONARY EDEMA. REPEATED OR PROLONGED EXPOSURE TO VAPORS MAY CAUSE, IN ADDITION TO IRRITATION, BROCHITIS AND PNEUMONIA. Contact with skin or eyes: POWERFUL IRRITANT, MAY CAUSE CONJUNCTIVITIS, SWELLING OF EYELIDS, CHEMICAL BURNS, TRANSIENT CORNEAL DAMAGE. REPEATED OR PROLONGED EXPOSURE IN ADDITION TO IRRITATION, CATARERTS AND TRYINSL ATROPHY. Absorbed through skin: POWERFUL IRRITANT. MAY CAUSE SEVERE BURNING PAIN AND CORROŠIVE DAMAGE. REPEATED OR PROLONGED EXPOSURE MAY CASE DERMATITIS. Swallowed: IF INGESTED MAY CAUSE EXCESSIVE SALIVATION, NAUSEA, VOMITING, GASTRIC IRRITATION WITH CHANCES OF PERFORATION. INGESTION OF LARGE QUANTITIES, MAY PRODUCE DEPRESSION, SHOCK AND CONVULSIONS. Health Effects or Risks from Exposure: Acute: BASED ON THE TESTING OF THIS PRODUCT IN ANIMALS. IT IS BOTH AN EYE AND SKIN IRRITANT (RABBIT) AND TOXIC BY INGESTION (RAT). Chronic: NOT DETERMINED.

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SECTION 8. EMERGENCY AND FIRST AID PROCEDURES

Eve: IMMEDIATELY FLUSH WITH LOTS OF RUNNING WATER FOR AT LEAST 15 MINUTES. GET PROMPT MEDICAL ATTENTION. Skin Contact: RINSE WELL WITH RUNNING WATER. IF IRRITATION PERSISTS, CONTACT PHYSICIAN OR LOCAL POISON CONTROL CENTER. Inhaled: IF EFFECTS OCCUR, REMOVE VICTIM TO FRESH AIR. PROVIDE SYMPTOMATIC AND SUPPORTIVE CARE. CONTACT PHYSICIAN OR LOCAL POISON CONTROL CENTER. Swallowed: IMMEDIATELY GIVE LARGE QUANTITIES OF WATER OR MILK TO DILUTE. DO NOT INDUCE VOMITING. GET PROMPT MEDICAL ATTENTION. Suspected Cancer Agent? NO THIS PRODUCT'S INGREDIENTS ARE NOT FOUND IN THE LISTS BELOW. FEDERAL OSHA: NTP: IARC: Medical Conditions Aggravated By Exposure: PERSONS WITH PRE-EXISTING SKIN DISORDERS MAY BE MORE SUSCEPTIBLE TO THE EFFECTS OF THIS MATERIAL RESPIRATORY SYMPTOMS ASSOCIATED BY WITH PRE-EXISTING LUNG DISORDERS (E.G. ASTHMA-LIKE CONDITIONS) MAY BE AGGRAVATED BY EXPOSURE TO THIS MATERIAL. -----SECTION 9. CONTROL MEASURES \_\_\_\_\_ Ventilation and Engineering Controls: USE LOCAL EXHAUST SYSTEM. Respiratory Protection (type): USE NIOSHAPPROVED RESPIRATOR THAT WILL PROVIDÉ PROTECTION FROM AMMONIA GAS. IF AMMONIA VAPORS > 300 PPM USE SELF-CONTAINED BREATHING APPARATUS WITH FULL FACE SHIELD. Eye Protection (type): WEAR PROTECTIVE SAFETY GOGGLES OR FACE SHIELD. Other Clothing and Equipment: UNIFORMS, COVERALLS OR LABCOATS. Work Practices, Hygirnic Practices: PROVIDE EYE BATH AND EMERGENCY SHOWER. LAUNDER WORK CLOTHING WHEN SOILED. Other Handling and Storage Requirements: DO NOT MIX WITH OTHER HOUSEHOLD CHEMICALS, SUCH AS BLEACH, AUTOMATIC TOILET BOWL CLEANER, WALL OR TILE CLEANERS. STORE IN COOL VENTILATED AREA. KEEP OUT OF DIRECT SUNLIGHT. AVOID OVERHEATING. Protective Measures During Maintenance of Contaminated Equipment: PIPELINES MUST BE THOROUGHLY FLUSHED OF AMMONIA BEFORE WELDING OR CUTTING TO AVOID POSSIBLE IGNITION OF TRAPPED AMMONIA VAPORS. -----SECTION 10. ADDITIONAL INFORMATION

SARA TITLE III H&P RATINGS: Acute: YES, Chronic: NO, Fire: NO, Press. Release: No, Reactive: NO,

NFPA RATINGS: HEALTH -3 FIRE -0 REACTIVITY -0 SPECIFIC COR

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