

LA-MAR-KA
MSDS for AMMONIUM HYDROXIDE, 1% TO 30% AQUEOUS

1 -PRODUCT IDENTIFICATION

PRODUCT NAME: AMMONIUM HYDROXIDE, 1% TO 30%, AQUEOUS
COMMON SYNONYMS: AMMONIUM HYDROXIDE, 1N TO 8N
CHEMICAL FAMILY: VOLUMETRIC SOLUTIONS AND CONCENTRATES
FORMULA: NH_4OH IN H_2O
FORMULA WT.: N/E
CAS NO.: N/E
NIOSH/RTECS NO.: N/E
PRODUCT USE: LABORATORY REAGENT

CHEMTREC # (800) 424-9300
LA-MAR-KA, INC.
10272 SOUTH PERDUE STREET
BATON ROUGE, LA. 70814

EFFECTIVE: 03/24/95 ISSUED: 03/24/95
REVISION #01

PRECAUTIONARY LABELING

LA-MAR-KA LABELING SYSTEM

HEALTH	-	3	SEVERE (POISON)
FLAMMABILITY	-	1	SLIGHT
REACTIVITY	-	2	MODERATE
CONTACT	-	3	SEVERE (CORROSIVE)

LABORATORY PROTECTIVE EQUIPMENT

GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES

U.S. PRECAUTIONARY LABELING

POISON DANGER

CAUSES BURNS. HARMFUL IF INHALED. MAY BE FATAL IF SWALLOWED. EXCEPTIONAL HEALTH AND CONTACT HAZARDS: READ MATERIAL SAFETY DATA SHEET. DO NOT GET IN EYES, ON SKIN, ON CLOTHING. DO NOT BREATHE VAPOR. KEEP IN TIGHTLY CLOSED CONTAINER. USE WITH ADEQUATE VENTILATION. WASH THOROUGHLY AFTER HANDLING. KEEP CONTAINER OUT OF SUN AND AWAY FROM HEAT. IN CASE OF FIRE, USE WATER SPRAY. IN CASE OF SPILL, CAREFULLY NEUTRALIZE SPILL WITH DILUTE HCL. FLUSH SPILL AREA WITH WATER.

INTERNATIONAL LABELING

IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.

PRECAUTIONARY LABELING (CONTINUED)

KEEP OUT OF REACH OF CHILDREN. IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY

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1 -PRODUCT IDENTIFICATION (continued)

WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.

2 -COMPONENTS

COMPONENT	CAS NO.	WEIGHT %	OSHA/PEL	ACGIH/TLV
AMMONIUM HYDROXIDE	1336-21-6	1- 26	35 PPM	25 PPM
WATER	7732-18-5	99-64	N/E	N/E

3 -PHYSICAL DATA

BOILING POINT: N/A	VAPOR PRESSURE (MMHG): N/A
MELTING POINT: N/A	VAPOR DENSITY (AIR=1): N/A
SPECIFIC GRAVITY: N/A (H2O=1)	EVAPORATION RATE: N/A
SOLUBILITY(H2O): COMPLETE (100%)	% VOLATILES BY VOLUME: 100 (21 C)
PH: 14.0	
ODOR THRESHOLD (P.P.M.): N/A	PHYSICAL STATE: LIQUID
COEFFICIENT WATER/OIL DISTRIBUTION: N/A	
APPEARANCE & ODOR: CLEAR, COLORLESS LIQUID. PUNGENT ODOR.	

4 -FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (CLOSED CUP): N/A	NFPA 704M RATING: 3-1-0
AUTOIGNITION TEMPERATURE: N/A	
FLAMMABLE LIMITS: UPPER - N/A	LOWER - N/A
FIRE EXTINGUISHING MEDIA USE WATER SPRAY.	
SPECIAL FIRE-FIGHTING PROCEDURES FIREFIGHTERS SHOULD WEAR PROPER PROTECTIVE EQUIPMENT AND SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN POSITIVE PRESSURE MODE. MOVE EXPOSED CONTAINERS FROM FIRE AREA IF IT CAN BE DONE WITHOUT RISK. USE WATER TO KEEP FIRE-EXPOSED CONTAINERS COOL; DO NOT GET WATER	

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4 -FIRE AND EXPLOSION HAZARD DATA (continued)

INSIDE CONTAINERS.

UNUSUAL FIRE & EXPLOSION HAZARDS

GIVES OFF FLAMMABLE VAPORS. VAPORS MAY FORM EXPLOSIVE MIXTURE WITH AIR. CLOSED CONTAINERS EXPOSED TO HEAT MAY EXPLODE. ANHYDROUS AMMONIA HAS THE FOLLOWING FLAMMABLE LIMITS: UPPER - 25% AND LOWER - 16%. THE AUTOIGNITION TEMPERATURE FOR AMMONIA GAS IS 1204 F.

TOXIC GASES PRODUCED

AMMONIA, OXIDES OF NITROGEN

EXPLOSION DATA-SENSITIVITY TO MECHANICAL IMPACT

NONE IDENTIFIED.

EXPLOSION DATA-SENSITIVITY TO STATIC DISCHARGE

NONE IDENTIFIED.

5 -HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE (TLV/TWA): 18 MG/M3 (25 PPM)

✓ IS FOR AMMONIA.

SHORT-TERM EXPOSURE LIMIT (STEL): 27 MG/M3 (35 PPM)

STEL IS FOR AMMONIA.

PERMISSIBLE EXPOSURE LIMIT (PEL): 27 MG/M3 (35 PPM)

PEL IS FOR AMMONIA.

TOXICITY OF COMPONENTS

ORAL RAT LD50 FOR AMMONIUM HYDROXIDE

350 MG/KG

INTRAPERITONEAL MOUSE LD50 FOR WATER

190 G/KG

INTRAVENOUS MOUSE LD50 FOR WATER

25 G/KG

CARCINOGENICITY: NTP: NO IARC: NO Z LIST: NO OSHA REG: NO

CARCINOGENICITY

NONE IDENTIFIED.

REPRODUCTIVE EFFECTS

NONE IDENTIFIED.

EFFECTS OF OVEREXPOSURE

INHALATION: SEVERE IRRITATION OR BURNS OF RESPIRATORY SYSTEM,
PULMONARY EDEMA, LUNG INFLAMMATION

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5 -HEALTH HAZARD DATA (continued)

SKIN CONTACT: SEVERE IRRITATION OR BURNS

EYE CONTACT: SEVERE IRRITATION OR BURNS, PROLONGED CONTACT MAY CAUSE
PERMANENT CORNEAL DAMAGE, BLINDNESS

SKIN ABSORPTION: NONE IDENTIFIED

INGESTION: IS HARMFUL AND MAY BE FATAL, SEVERE BURNS TO MOUTH,
THROAT, AND STOMACH, NAUSEA, VOMITING, DIARRHEA

CHRONIC EFFECTS: NONE IDENTIFIED

TARGET ORGANS

RESPIRATORY SYSTEM, LUNGS, EYES, SKIN, MUCOUS MEMBRANES

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE

SKIN DISORDERS, RESPIRATORY SYSTEM DISEASE

PRIMARY ROUTES OF ENTRY

INHALATION, INGESTION, EYE CONTACT, SKIN CONTACT

EMERGENCY AND FIRST AID PROCEDURES

INGESTION: CALL A PHYSICIAN. IF SWALLOWED, DO NOT INDUCE VOMITING. IF
CONSCIOUS, GIVE LARGE AMOUNTS OF WATER. FOLLOW WITH DILUTED
VINEGAR, FRUIT JUICE OR WHITES OF EGGS, BEATEN WITH WATER.

INHALATION: IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE
ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE
OXYGEN.

SKIN CONTACT: IN CASE OF CONTACT, IMMEDIATELY FLUSH SKIN WITH PLENTY OF
WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED
CLOTHING AND SHOES. WASH CLOTHING BEFORE RE-USE.

EYE CONTACT: IN CASE OF EYE CONTACT, IMMEDIATELY FLUSH WITH PLENTY OF
WATER FOR AT LEAST 15 MINUTES.

SARA/TITLE III HAZARD CATEGORIES AND LISTS

ACUTE: YES CHRONIC: YES FLAMMABILITY: NO PRESSURE: NO REACTIVITY: NO

EXTREMELY HAZARDOUS SUBSTANCE: YES CONTAINS AMMONIA (RQ = 100 LBS, TPQ = 500
LBS)

CERCLA HAZARDOUS SUBSTANCE: YES CONTAINS AMMONIUM HYDROXIDE (RQ = 1000
LBS)

SARA 313 TOXIC CHEMICALS: YES CONTAINS AMMONIA
GENERIC CLASS: C16

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5 -HEALTH HAZARD DATA (continued)

TSCA INVENTORY: YES

6 -REACTIVITY DATA

STABILITY: STABLE

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS TO AVOID: HEAT, SUNLIGHT

INCOMPATIBLES: STRONG ACIDS, MOST COMMON METALS, STRONG OXIDIZING AGENTS, BROMINE, CHLORINE, ALUMINUM, COPPER, BRASS, BRONZE, MERCURY, DIMETHYL SULFATE

DECOMPOSITION PRODUCTS: AMMONIA, OXIDES OF NITROGEN

7 -SPILL & DISPOSAL PROCEDURES

STEPS TO BE TAKEN IN THE EVENT OF A SPILL OR DISCHARGE

WEAR SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING. STOP LEAK IF YOU CAN DO SO WITHOUT RISK. VENTILATE AREA. CAREFULLY NEUTRALIZE SPILL WITH DILUTE HCL. FLUSH AREA WITH FLOODING AMOUNTS OF WATER. (USE CAUTION.)

DISPOSAL PROCEDURE

DISPOSE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL ENVIRONMENTAL REGULATIONS.

8 -INDUSTRIAL PROTECTIVE EQUIPMENT

VENTILATION: USE GENERAL OR LOCAL EXHAUST VENTILATION TO MEET TLV REQUIREMENTS.

RESPIRATORY PROTECTION: RESPIRATORY PROTECTION REQUIRED IF AIRBORNE CONCENTRATION EXCEEDS TLV. AT CONCENTRATIONS UP TO 300 PPM, A CHEMICAL CARTRIDGE RESPIRATOR WITH AMMONIA/AMINE CARTRIDGE AND DUST/MIST FILTER IS RECOMMENDED. ABOVE THIS LEVEL, A SELF-CONTAINED BREATHING APPARATUS IS ADVISED.

EYE/SKIN PROTECTION: SAFETY GOGGLES AND FACE SHIELD, UNIFORM, PROTECTIVE SUIT, RUBBER GLOVES ARE RECOMMENDED.

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9 - STORAGE AND HANDLING PRECAUTIONS

STORAGE REQUIREMENTS

KEEP CONTAINER TIGHTLY CLOSED. STORE IN CORROSION-PROOF AREA. STORE BELOW 25 C. DO NOT STORE IN DIRECT SUNLIGHT. ISOLATE FROM INCOMPATIBLE MATERIALS.

10 - TRANSPORTATION DATA AND ADDITIONAL INFORMATION

DOMESTIC (D.O.T.)

N/A = NOT APPLICABLE OR NOT AVAILABLE

N/E = NOT ESTABLISHED

THE INFORMATION IN THIS MATERIAL SAFETY DATA SHEET MEETS THE REQUIREMENTS OF THE UNITED STATES OCCUPATIONAL SAFETY AND HEALTH ACT AND REGULATIONS PROMULGATED THEREUNDER (29 CFR 1910.1200 ET. SEQ.) AND THE CANADIAN WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM. THIS DOCUMENT IS INTENDED ONLY AS A GUIDE TO THE APPROPRIATE PRECAUTIONARY HANDLING OF THE MATERIAL BY A PERSON TRAINED IN, OR SUPERVISED BY A PERSON TRAINED IN, CHEMICAL HANDLING. THE USER IS RESPONSIBLE FOR DETERMINING THE PRECAUTIONS AND DANGERS OF THIS CHEMICAL IN HIS OR HER PARTICULAR APPLICATION. DEPENDING ON USAGE, PROTECTIVE CLOTHING INCLUDING EYE AND FACE GUARDS AND RESPIRATORS MUST BE USED TO AVOID CONTACT WITH MATERIAL OR BREATHING CHEMICAL VAPORS/FUMES.

EXPOSURE TO THIS PRODUCT MAY HAVE SERIOUS ADVERSE HEALTH EFFECTS. THIS CHEMICAL MAY INTERACT WITH OTHER SUBSTANCES. SINCE THE POTENTIAL USES ARE SO VARIED, LA-MAR-KA CANNOT WARN OF ALL OF THE POTENTIAL DANGERS OF USE OR INTERACTION WITH OTHER CHEMICALS OR MATERIALS. LA-MAR-KA WARRANTS THAT THE CHEMICAL MEETS THE SPECIFICATIONS SET FORTH ON THE LABEL.

LA-MAR-KA DISCLAIMS ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, WITH REGARD TO THE PRODUCT SUPPLIED HEREUNDER, ITS MERCHANTABILITY OR ITS FITNESS FOR A PARTICULAR PURPOSE.

THE USER SHOULD RECOGNIZE THAT THIS PRODUCT CAN CAUSE SEVERE INJURY AND EVEN DEATH, ESPECIALLY IF IMPROPERLY HANDLED OR THE KNOWN DANGERS OF USE ARE NOT HEEDDED. READ ALL PRECAUTIONARY INFORMATION. AS NEW DOCUMENTED GENERAL SAFETY INFORMATION BECOMES AVAILABLE, LA-MAR-KA WILL PERIODICALLY REVISE THIS MATERIAL SAFETY DATA SHEET.

APPROVED BY LA-MAR-KA, INC.