

SECTION 1 IDENTIFICATION OF THE CHEMICAL AND THE SUPPLIER

1.1 IDENTIFICATION OF THE PRODUCT:

PRODUCT NAME: AMMONIUM HYDROXIDE
CAS NO.: 1336-21-6
FORMULA: NH₄OH
OTHER MEANS OF IDENTIFICATION: AMMONIA, AMMONIA SOLUTION.

1.2 RECOMMENDED USE OF THE CHEMICAL AND RESTRICTIONS ON USE

INDUSTRIAL APPLICATIONS, MANUFACTURING OF CHEMICALS, PHARMACEUTICAL PRODUCTS, CLEANING PRODUCTS. SUITABLE EPP MUST ALWAYS BE USED.

1.3 THE MANUFACTURER DATA

MACRO QUIMICA S.A. DE C.V.
ALFA NO. 1019 PARQUE INDUSTRIAL MITRAS GARCIA, NUEVO LEON CP 66000, MEXICO.

EMERGENCY (24 HRS) MONTERREY: 01 (81) 8381 0606
01 (81) 8381 0605
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GUAYMAS : 01 (622) 224 6495

SECTION 2 HAZARDS IDENTIFICATION

2.1 CLASSIFICATION OF THE SUBSTANCE

CLASSIFICATION GHS-MEX

CODE	INDICATION OF PHYSICAL DANGER	HAZARD CLASS	CATEGORY OF DANGER
H302	HARMFUL IF SWALLOWED	ACUTE TOXICITY BY INGESTION.	4
H314	IT CAUSES SEVERE BURNS TO SKIN AND EYE INJURY	CORROSION / SKIN IRRITATION	1A, 1B, 1 C
H318	IT CAUSES SERIOUS OCULAR INJURY	SERIOUS EYE INJURY / SKIN IRRITATION	1
H335	IT CAN IRRITATE THE RESPIRATORY TRACT IRRITATION	TOXICITY SPECIFIED IN CERTAIN ORGANS (SINGLE EXPOSURE); RESPIRATORY TRACT	3

2.2 ELEMENTS OF LABELS

TAGGED SGA-MX



HAZARD PICTOGRAMS

WORD OF WARNING

DANGER

INDICATIONS OF DANGER

H302 HARMFUL IF SWALLOWED.
H314 CAUSES SEVERE BURNS TO THE SKIN AND EYE INJURY.
H335 MAY IRRITATE RESPIRATORY TRACT.
H400 VERY TOXIC FOR AQUATIC ORGANISMS

SAFETY ADVICE

SAFETY ADVICE - PREVENTION

P260 DO NOT BREATHE DUST / FUME / GAS / MIST / VAPOURS/EL SPRAY.
P280 WEAR GLOVES/PROTECTION/PROTECTIVE EQUIPMENT FOR FACE / EYES.
P273 POT DISPERSE IN THE ENVIRONMENT, IF IT IS NOT THE USE TO WHICH THIS INTENDED.

SAFETY ADVICE - RESPONSE

	P303+P361+P353	IF ON SKIN: TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING. RINSE SKIN WITH WATER OR SHOWERING.
	P305 + P351 +P338	IN CASE OF CONTACT WITH EYES: RINSE WITH WATER THOROUGHLY FOR SEVERAL MINUTES. REMOVE CONTACT LENSES WHEN THEY ARE PRESENT AND IT CAN BE DONE EASILY, CONTINUE WITH THE WASH.
SAFETY ADVICE - STORAGE	P391	COLLECT SPILLS
SAFETY ADVICE - REMOVAL	P403 + P233	STORE IN A WELL-VENTILATED PLACE. KEEP CONTAINER TIGHTLY CLOSED.
FOR LABELING HAZARDOUS INGREDIENTS:	P501	DELETE CONTENT. AMMONIA
2.3. OTHER HAZARDS	THERE IS NO DATA AVAILABLE.	

SECTION 3 COMPOSITION/INFORMATION ON COMPONENTS

NAME	PRODUCT ID CLASSIFICATION.	CONTENT % NH3	GHS
AMMONIUM HYDROXIDE	CAS 1336-21-6; UN:2672	ALL YOUR PRESENTATIONS (BETWEEN 10 TO 35%)	CORROSIVE SKIN H314; IT CAN IRRITATE THE AIRWAYS H335

SECTION 4 FRIST AID

4.1 DESCRIPTION OF FIRST AID

FIRST AID INHALATION.	MOVE THE VICTIM TO FRESH AIR AND VENTED, KEEP IT AT REST, SEMI-SENTADO, IF NOT BREATHING, APPLY ARTIFICIAL RESPIRATION. OBTAIN IMMEDIATE MEDICAL ATTENTION.
FIRST AID FOR CONTACT WITH EYES	RINSE IMMEDIATELY WITH WATER FOR A LONG TIME. OBTAIN IMMEDIATE MEDICAL ATTENTION
FIRST AID FOR CONTACT WITH THE SKIN.	REMOVING THE VICTIM FROM CONTAMINATED AREA, REMOVE CONTAMINATED. WASH CLOTHING THE PART AFFECTED WITH COPIOUS AMOUNTS OF WATER FOR LONG TIME, BURNS SHOULD BE COVERED WITH BANDAGES WILL STAY WET ALL THE TIME. YOU SHOULD GET IMMEDIATE MEDICAL ATTENTION
FIRST AID	IF SWALLOWED IMMEDIATELY WASH MOUTH WITH PLENTY OF WATER, AND DRINK PLENTY OF WATER. CALL YOUR DOCTOR IMMEDIATELY.

4.2 SYMPTOMS AND MOST IMPORTANT ACUTE AND CHRONIC EFFECTS

BURNS BY CORROSION, COMPULSIVE COUGH, VOMITING, SEVERE DANGER OF BLINDNESS, LOSS OF CONSCIOUSNESS, PULMONARY EDEMA, GASTROINTESTINAL DISORDERS, RISK OF EYE INJURY.

4.2 INDICATIONS OF THE NEED OF CARE MEDICAL IMMEDIATELY, AND IF ANY SPECIAL TREATMENT

NONE.

SECTION 5 FIRE FIGHTING MEASURES

5.1 SUITABLE EXTINGUISHING MEDIA

USE DRY CHEMICAL, WATER SPRAY, DIOXIDE OF CARBON AS AN EXTINGUISHING AGENT.

5.2. SPECIFIC HAZARDS OF THE CHEMICAL.

AMMONIUM HYDROXIDE IS NOT A FUEL, HOWEVER FORM VAPOURS OF AMMONIA THAT COULD IGNITE OR EXPLODE.

5.3. SPECIAL MEASURES TO BE FOLLOWED GROUPS OF FIRE FIGHTING

YOU MUST KEEP A REASONABLE DISTANCE, THE PRECAUTIONS NECESSARY AND EVEN IF IS NECESSARY TO USE ENCAPSULATED CHEMICAL PROTECTIVE CLOTHING AND SELF-CONTAINED BREATHING EQUIPMENT.

SECTION 6 MEASURES TO BE TAKEN IN THE EVENT OF ACCIDENTAL SPILLAGE OR ACCIDENTAL LEAKAGE

6.1. PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES
PREFERABLY, THE AREA SHOULD BE EVACUATED. TO ENSURE PROPER VENTILATION. CONSIDER THE RISK OF POTENTIALLY EXPLOSIVE ATMOSPHERE. ALL SOURCES OF IGNITION MUST BE REMOVED IF THERE IS NO DANGER IN DOING SO. PREVENT THE SPILLED PRODUCT FROM ENTERING DRAINS RIVERS OR ANY PLACE WHERE ITS ACCUMULATION REPRESENT A DANGER. USE OF RESPIRATORY PROTECTION AND CHEMICAL PROTECTION AND/OR FIRE PROTECTION EQUIPMENT.

6.2 PRECAUTIONS RELATING TO THE ENVIRONMENT
COMBAT THE VAPORS WITH WATER FOG, AVOID FALLING IN DRAINS AND SURFACE AND DEEP WATERS.

6.3 METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING OF SPILLS OR LEAKS
YOU CAN USE ABSORBENT MATERIALS SHOULD BE POSSIBLE, BARRICADES OF CONTAINMENT TO CONTAIN THE SPILL. USE ADEQUATE VENTILATION.

SECTION 7 HANDLING AND STORAGE.

7.1 PRECAUTIONS THAT SHOULD BE TAKEN TO ENSURE SAFE HANDLING.
MAINTAIN AN ADEQUATE VENTILATION AT ALL TIMES. PLASTIC CONTAINERS MUST MANIPULATE AND OPEN WITH CAUTION, IF THE CONTAINER HAS DEFORMED ABOVE PRESSURE, NO YOU MUST MANIPULATE OR OPEN AND LEAVE UNTIL IT STABILIZES PRESSURE AND SLOWLY OPEN.

7.2 STORAGE CONDITIONS SAFE INCLUDING ANY INCOMPATIBILITY.
CONTAINERS AND CONTAINERS MUST BE WELL IDENTIFIED AND IN COOL AND SHADED WITH ADEQUATE VENTILATION. STORE AWAY FROM STRONG ACIDS, OXIDIZING AGENTS, HALIDES, METALS SUCH AS COPPER AND NICKEL AND THEIR ALLOYS.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION.

8.1 CONTROL PARAMETERS.

COUNTRY	AGENT OR SUBSTANCE	CAS NO.	LMPE-PPT	LMPE-CT OR PEAK	REFERENCE
MEXICO	AMMONIA (AMMONIUM HYDROXIDE)	1336-21-6	25 PPM	35 PPM	NOM-010STPS-2014

AT A TIME OF EXPOSURE OF 8 HR.

8.2. APPROPRIATE TECHNICAL CONTROLS.
THE PRODUCT MUST BE USED IN CLOSED SYSTEMS AND UNDER APPROPRIATE CONDITIONS, AND ALWAYS WITH GOOD VENTILATION.

8.3 MEASURES OF INDIVIDUAL PROTECTION AS PPE PERSONAL PROTECTIVE EQUIPMENT.
USE GOGGLES OR SAFETY GLASSES, RUBBER, NITRILE OR NEOPRENE GLOVES CLOTHING COTTON, RUBBER OR SUIT AGAINST CHEMICAL AGENTS, APRON (PREFERRED FOR FULL FACE) AMMONIA VAPORS AND SAFETY SHOES MASK. IN CASE OF EMERGENCY OR OXYGEN DEFICIENT PLACES, USE SELF-CONTAINED BREATHING EQUIPMENT.

SECTION 9 PHYSICAL PROPERTIES AND CHEMICAL.

APPEARANCE	CLEAR COLORLESS LIQUID
VAPOR PRESSURE	125 PSI
ODOR	CHARACTERISTIC VERY SPICY
VAPOR DENSITY	0.59 (AIR 1)
ODOR THRESHOLD	IT VARIES ACCORDING TO THE CONDITIONS
RELATIVE DENSITY	0.890-.940 G/ML

STARTING POINT AND BOILING RANGE	37.7 °C
SPONTANEOUS TEMPERATURE	IGNITION 630° C
FLASH POINT	NOT DETERMINED
DECOMPOSITION TEMPERATURE	THERE IS NO RELEVANT DATA
EVAPORATION RATE	NO DATA AVAILABLE
VISCOSITY	NOT DETERMINED

PH (10% DILUTION)	MORE THAN 10
SOLUBILITY.	IN WATER = MISCIBLE IN ANY PROPORTION.
MELTING POINT	-77.7°C
N-OCTANOL/WATER PARTITION COEFFICIENT	< 1

FLAMMABILITY	IT DOES NOT APPLY
MOLECULAR WEIGHT	35.04 G/MOL
UPPER EXPLOSIVITY LIMIT.	16 TO 25% (VAPORS)
OTHER RELEVANT DATA	THERE IS NO ADDITIONAL INFORMATION

SECTION 10 STABILITY AND REACTIVITY.

10.1 REACTIVITY.

THIS MATERIAL IS NOT REACTIVE UNDER NORMAL ENVIRONMENTAL CONDITIONS

10.2. CHEMICAL STABILITY.

IT IS STABLE UNDER NORMAL ENVIRONMENTAL CONDITIONS BOTH IN HANDLING AND STORAGE.

10.3. POSSIBILITY OF HAZARDOUS REACTIONS.

IT MAY FORM POTENTIALLY EXPLOSIVE ATMOSPHERES IN AIR. YOU CAN REACT VIOLENTLY WITH OXIDIZING MATERIALS.

10.4. CONDITIONS THAT SHOULD BE AVOIDED.

AVOID EXCESSIVE HEATING.

10.5. INCOMPATIBLE MATERIALS.

INCOMPATIBLE WITH STRONG ACIDS, OXIDIZING AGENTS, HALIDES, METALS SUCH AS COPPER AND NICKEL AND THEIR ALLOYS

10.6. HAZARDOUS DECOMPOSITION PRODUCTS.

UNDER NORMAL CONDITIONS OF USE AND STORAGE, IT MUST NOT PRODUCE DECOMPOSITION PRODUCTS HAZARDOUS. IN THE EVENT OF FIRE, CORROSIVE VAPORS OF OXIDES OF NITROGEN, AMMONIA (GAS) AND TOXIC FUMES OF CARBON MONOXIDE CAN BE GENERATED.

SECTION 11 TOXICOLOGICAL INFORMATION.

11.1. INFORMATION ON THE LIKELY ROUTES OF ENTRY.

NO DATA AVAILABLE FOR THIS PRODUCT

11.2 SYMPTOMS RELATED TO THE PHYSICAL, CHEMICAL AND TOXICOLOGICAL CHARACTERISTICS.

NO DATA AVAILABLE FOR THIS PRODUCT

11.3. IMMEDIATE EFFECTS, DELAYED AS WELL AS CHRONIC EFFECTS PRODUCED BY EXPOSURE TO SHORT, LONG OR MEDIUM-TERM.

THE EFFECTS ARE IMMEDIATE BY CORROSION, AND MAY BE PERMANENT IN EXTREME CASE ACCORDING TO TIME AND AMOUNTS OF EXPOSURE. IT PRODUCES BURNS CORROSION IN CONTACT WITH SKIN AND EYES, THE SEVERITY DEPENDS ON THE TIME AND AMOUNT OF EXPOSURE. IN THE RESPIRATORY TRACT PRODUCES IRRITATION, COMPULSIVE COUGH, SPASMS, DROWNING PULMONARY EDEMA. BY INGESTION. IT PRODUCES BURNS TO THE MOUTH, ESOPHAGUS AND STOMACH.

11.4. TOXICOLOGICAL NUMERICAL MEASURES.

BY SWALLOWING THE ESTIMATE BY ETA ACUTE EXPOSURE IS 350

11.5 INTERACTIVE EFFECTS.

NO DATA AVAILABLE FOR THIS PRODUCT

11.6 WHEN SPECIFIC CHEMICAL DATA ARE NOT AVAILABLE.

NO DATA AVAILABLE FOR THIS PRODUCT

11.7 MIXTURES.

IT DOES NOT APPLY

11.8. INFORMATION ABOUT THE MIXTURE OR ITS COMPONENTS.

IT DOES NOT APPLY

11.9. OTHER INFORMATION.

IT DOES NOT APPLY

SECTION 12 INFORMATION ECO-TOXICOLOGICAL.

12.1 TOXICITY.

AMMONIA CAS 1336-21-6 101 LC50 MG/L AQUATIC INVERTEBRATES 48 HR

12.2 PRESENCE AND DEGRADABILITY.

HE IS EXPECTED TO BE EASILY BIODEGRADABLE.

12.3. BIOACCUMULATION POTENTIAL.

THERE IS NO DATA ON BIOACCUMULATION.

12.4. MOBILITY IN SOIL.

BECAUSE OF THAT IT IS A WATER-SOLUBLE MATERIAL, IT CAN BE DISPERSED IN AQUEOUS MEDIA.

12.5 OTHER ADVERSE EFFECTS.

IT CAN BE VERY TOXIC TO AQUATIC ORGANISMS. A DANGER TO THE ENVIRONMENT CANNOT BE EXCLUDED BY INAPPROPRIATE HANDLING.

SECTION 13 INFORMATION CONCERNING THE DISPOSAL OF PRODUCTS.

ALL WASTE MUST BE HANDLED AND DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE AND MUNICIPAL REGULATIONS. EVEN EMPTY CONTAINERS MAY CONTAIN REMAINS OF MATERIAL THEREFORE CARE MANAGEMENT MUST BE MAINTAINED.

SECTION 14 TRANSPORT INFORMATION.

NUMBER ONU

OFFICIAL DESIGNATION OF UNITED NATIONS TRANSPORT

HAZARDS IN TRANSPORT CLASS

GROUP OF PACKING MATERIALS

ENVIRONMENTAL RISKS HAZARDOUS TO THE AQUATIC ENVIRONMENT

Un: 2672

AMMONIUM HYDROXIDE

8 CORROSIVE

III THAT HAVE LOW DEGREE OF ENDANGERMENT

ENVIRONMENTAL PRECAUTIONS THE USER MUST COMPLY WITH ENVIRONMENTAL RESTRICTIONS

TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL 73/78 AND TO THE CIQ (IBC IN ENGLISH) CODE NUMBER UN A 2672

OFFICIAL DESIGNATION OF AMMONIUM HYDROXIDE UNITED NATIONS TRANSPORT HAZARDS IN TRANSPORT CLASS 8 CORROSIVE

GROUP OF PACKING MATERIALS III THAT HAVE LOW DEGREE OF ENDANGERMENT

SECTION 15 REGULATORY INFORMATION.

THIS SAFETY DATA SHEET HAS BEEN IN AGREEMENT WITH THE NOM-018-STPS-2015.

SECTION 16 OTHER INFORMATION INCLUDING THOSE RELATING TO THE PREPARATION AND UPDATING OF SAFETY DATA SHEETS.

THE INFORMATION IS BELIEVED TO BE CORRECT, BUT IS NOT EXHAUSTIVE AND IS USED ONLY AS A GUIDE, WHICH IS BASED ON THE CURRENT KNOWLEDGE OF THE AMMONIUM HYDROXIDE AND IS APPLICABLE TO SAFETY PRECAUTIONS APPROPRIATE TO THE PRODUCT.

CLASSIFICATION ACCORDING TO THE DEGREE OF RISK:

HEALTH	3
INFLAMMABILITY	1
REACTIVITY	0

REVISION DATE.

JUNE 30, 2023

NEXT REVISION.

IN A YEAR OR WHEN A CHANGE OCCURS

MAIN BIBLIOGRAPHIC SOURCES

NOM-018-STPS-2015 HARMONISED SYSTEM FOR THE IDENTIFICATION AND COMMUNICATION OF HAZARDS AND RISKS BY HAZARDOUS CHEMICALS IN THE WORKPLACE.

NMX-R-019-SCFI-2011 HARMONIZED SYSTEM OF CLASSIFICATION AND HAZARD COMMUNICATION OF THE CHEMICAL PRODUCTS

NOM-010-STPS-2014 LIMIT VALUES FOR EXPOSURE TO CHEMICALS POLLUTING THE ENVIRONMENT LABOUR (NOM-010-STPS-2014)

GRENÁ 2016 CHEMICAL EMERGENCY RESPONSE GUIDE