

LA-MAR-KA (LM-0636.MSD)

MSDS for HYDROCHLORIC ACID, 0.001N TO 1.5N, METHANOLIC

1 - PRODUCT IDENTIFICATION

PRODUCT NAME: HYDROCHLORIC ACID, 0.005N TO 1.5N, METHANOLIC
COMMON SYNONYMS: MURIATIC ACID; CHLOROHYDRIC ACID; HYDROGEN CHLORIDE,
AQUEOUS
CHEMICAL FAMILY: INORGANIC ACIDS
FORMULA: HCL
FORMULA WT.: 36.46
CAS NO.: 7647-01-0
NIOSH/RTECS NO.: MW4025000
PRODUCT USE: LABORATORY REAGENT

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

EFFECTIVE: 05/01/89 ISSUED: 04/14/90 REVIEWED 1-1-95
REVISION #03

PRECAUTIONARY LABELING

\-MAR-KA LABELING SYSTEM

HEALTH	-	3	SEVERE (POISON)
FLAMMABILITY	-	3	NONE
REACTIVITY	-	2	MODERATE
CONTACT	-	3	SEVERE (CORROSIVE)

LABORATORY PROTECTIVE EQUIPMENT

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

U.S. PRECAUTIONARY LABELING

HYDROCHLORIC ACID: POISON DANGER
CAUSES SEVERE BURNS. MAY BE FATAL IF SWALLOWED OR INHALED.
DO NOT GET IN EYES, ON SKIN, ON CLOTHING. DO NOT BREATHE VAPOR. CAUSES DAMAGE
TO RESPIRATORY SYSTEM (LUNGS), EYES AND SKIN. KEEP IN TIGHTLY CLOSED
CONTAINER. LOOSEN CLOSURE CAUTIOUSLY. USE WITH ADEQUATE VENTILATION. WASH
THOROUGHLY AFTER HANDLING. IN CASE OF SPILL NEUTRALIZE WITH SODA ASH OR LIME
AND PLACE IN DRY CONTAINER.

METHANOL: POISON DANGER
FLAMMABLE. HARMFUL IF INHALED. CANNOT BE MADE NON-POISONOUS. MAY BE FATAL OR
CAUSE BLINDNESS IF SWALLOWED.
KEEP AWAY FROM HEAT, SPARKS, FLAME. DO NOT GET IN EYES, ON SKIN, ON CLOTHING.
AVOID BREATHING VAPOR. KEEP IN TIGHTLY CLOSED CONTAINER. USE WITH ADEQUATE
VENTILATION. WASH THOROUGHLY AFTER HANDLING. IN CASE OF FIRE, USE ALCOHOL
FOAM, DRY CHEMICAL, CARBON DIOXIDE - WATER MAY BE INEFFECTIVE. FLUSH SPILL

LA-MAR-KA (LM-0636.MSD)
MSDS for HYDROCHLORIC ACID, 0.001N TO 1.5N, METHANOLIC

1 -PRODUCT IDENTIFICATION (continued)

AREA WITH WATER SPRAY.

PRECAUTIONARY LABELING (CONTINUED)

HYDROCHLORIC ACID: INTERNATIONAL LABELING

IRRITATING TO EYES AND SKIN.
KEEP OUT OF REACH OF CHILDREN. IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY
WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.

METHANOL: INTERNATIONAL LABELING

HIGHLY FLAMMABLE. TOXIC BY INHALATION AND IF SWALLOWED.
KEEP OUT OF REACH OF CHILDREN. KEEP CONTAINER TIGHTLY CLOSED. KEEP AWAY FROM
SOURCES OF IGNITION - NO SMOKING. AVOID CONTACT WITH SKIN.

LA-MAR-KA STORAGE COLOR CODE: WHITE (CORROSIVE)

2 -COMPONENTS

COMPONENT	CAS NO.	WEIGHT %	OSHA/PEL	ACGIH/TLV
HYDROCHLORIC ACID	7647-01-0	<1-6	5 PPM	5 PPM
METHANOL	67-56-1	>99-94	200 PPM	200 PPM

3 -PHYSICAL DATA

BOILING POINT: 65 C (149 F)
(AT 760 MM HG)

VAPOR PRESSURE (MMHG): 96
(20 C)

MELTING POINT: -98 C (-144 F)
(AT 760 MM HG)

VAPOR DENSITY (AIR=1): 1.11

SPECIFIC GRAVITY: 0.79
(H2O=1)

EVAPORATION RATE: 4.6
(BUTYL ACETATE = 1)

SOLUBILITY(H2O): COMPLETE (100%)

% VOLATILES BY VOLUME: 100
(21 C)

PH: N/A

ODOR THRESHOLD (P.P.M.): N/A

PHYSICAL STATE: LIQUID

COEFFICIENT WATER/OIL DISTRIBUTION: N/A

LA-MAR-KA (LM-0636.MSD)
MSDS for HYDROCHLORIC ACID, 0.001N TO 1.5N, METHANOLIC

3 -PHYSICAL DATA (continued)

APPEARANCE & ODOR: CLEAR, COLORLESS LIQUID. PUNGENT ODOR.

4 -FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (CLOSED CUP): 12 C (54 F) NFPA 704M RATING: 1-3-0

AUTOIGNITION TEMPERATURE: 463 C (867 F)

FLAMMABLE LIMITS: UPPER - 36.0 % LOWER - 6.0 %

FIRE EXTINGUISHING MEDIA

USE ALCOHOL FOAM, DRY CHEMICAL OR CARBON DIOXIDE. (WATER MAY BE INEFFECTIVE.)

SPECIAL FIRE-FIGHTING PROCEDURES

FIREFIGHTERS SHOULD WEAR PROPER PROTECTIVE EQUIPMENT AND SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN POSITIVE PRESSURE MODE. MOVE CONTAINERS FROM FIRE AREA IF IT CAN BE DONE WITHOUT RISK. USE WATER TO KEEP FIRE-EXPOSED CONTAINERS COOL.

USUAL FIRE & EXPLOSION HAZARDS

VAPORS MAY FLOW ALONG SURFACES TO DISTANT IGNITION SOURCES AND FLASH BACK. CLOSED CONTAINERS EXPOSED TO HEAT MAY EXPLODE. CONTACT WITH STRONG OXIDIZERS MAY CAUSE FIRE. BURNS WITH A CLEAR, ALMOST INVISIBLE FLAME.

TOXIC GASES PRODUCED

CARBON MONOXIDE, CARBON DIOXIDE, FORMALDEHYDE

EXPLOSION DATA-SENSITIVITY TO MECHANICAL IMPACT

NONE IDENTIFIED.

EXPLOSION DATA-SENSITIVITY TO STATIC DISCHARGE

NONE IDENTIFIED.

UNUSUAL FIRE & EXPLOSION HAZARDS

MAY EMIT HYDROGEN GAS, HYDROGEN CHLORIDE, UPON CONTACT WITH METAL.

5 -HEALTH HAZARD DATA

METHANOL:

THRESHOLD LIMIT VALUE (TLV/TWA): 260 MG/M3 (200 PPM)

THE TLV LISTED DENOTES TLV (SKIN).

LA-MAR-KA (LM-0636.MSD)
MSDS for HYDROCHLORIC ACID, 0.001N TO 1.5N, METHANOLIC

5 -HEALTH HAZARD DATA (continued)

SHORT-TERM EXPOSURE LIMIT (STEL): 310 MG/M3 (250 PPM)

PERMISSIBLE EXPOSURE LIMIT (PEL): 260 MG/M3 (200 PPM)

TOXICITY OF COMPONENTS

ORAL RAT LD50 FOR METHANOL	5628 MG/KG
INTRAPERITONEAL RAT LD50 FOR METHANOL	9540 MG/KG
SUBCUTANEOUS MOUSE LD50 FOR METHANOL	9800 MG/KG
SKIN RABBIT LD50 FOR METHANOL	20 G/KG

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

CARCINOGENICITY

NONE IDENTIFIED.

REPRODUCTIVE EFFECTS

NONE IDENTIFIED.

EFFECTS OF OVEREXPOSURE

INHALATION: IS HARMFUL AND MAY BE FATAL, HEADACHE, NAUSEA, VOMITING, DIZZINESS, NARCOSIS, RESPIRATORY FAILURE, LOW BLOOD PRESSURE, CENTRAL NERVOUS SYSTEM DEPRESSION

SKIN CONTACT: IRRITATION, PROLONGED CONTACT MAY CAUSE DERMATITIS

EYE CONTACT: IRRITATION, MAY CAUSE TEMPORARY CORNEAL DAMAGE

SKIN ABSORPTION: NONE IDENTIFIED

INGESTION: IS HARMFUL AND MAY BE FATAL, BLINDNESS, HEADACHE, NAUSEA, VOMITING, DIZZINESS, GASTROINTESTINAL IRRITATION, CENTRAL NERVOUS SYSTEM DEPRESSION, HEARING LOSS

CHRONIC EFFECTS: KIDNEY DAMAGE, LIVER DAMAGE

TARGET ORGANS

EYES, SKIN, CENTRAL NERVOUS SYSTEM, GI TRACT, RESPIRATORY SYSTEM, LUNGS

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE

EYE DISORDERS, SKIN DISORDERS, LIVER OR KIDNEY DISORDERS

PRIMARY ROUTES OF ENTRY

INHALATION, INGESTION, EYE CONTACT, SKIN CONTACT, ABSORPTION

EMERGENCY AND FIRST AID PROCEDURES

INGESTION: CALL A PHYSICIAN. IF SWALLOWED, IF CONSCIOUS, GIVE LARGE AMOUNTS OF WATER. INDUCE VOMITING.

LA-MAR-KA (LM-0636.MSD)
MSDS for HYDROCHLORIC ACID, 0.001N TO 1.5N, METHANOLIC

5 -HEALTH HAZARD DATA (continued)

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: YES PRESSURE: NO REACTIVITY: NO

EXTREMELY HAZARDOUS SUBSTANCE: NO

CERCLA HAZARDOUS SUBSTANCE: YES CONTAINS METHANOL (RQ = 5000 LBS)

SARA 313 TOXIC CHEMICALS: YES CONTAINS METHANOL

GENERIC CLASS: C05

TSCA INVENTORY: YES

HYDROCHLORIC ACID:
THRESHOLD LIMIT VALUE (TLV/TWA): 7 MG/M3 (5 PPM)

TLV (CEILING) IS FOR HYDROGEN CHLORIDE.

SHORT-TERM EXPOSURE LIMIT (STEL): NOT ESTABLISHED

PERMISSIBLE EXPOSURE LIMIT (PEL): 7 MG/M3 (5 PPM)

PEL (CEILING) IS FOR HYDROGEN CHLORIDE.

TOXICITY OF COMPONENTS

INTRAPERITONEAL MOUSE LD50 FOR HYDROCHLORIC ACID	40	MG/KG
ORAL RABBIT LD50 FOR HYDROCHLORIC ACID	900	MG/KG
INHALATION-1HR RAT LC50 FOR HYDROCHLORIC ACID	3124	PPM
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.

LA-MAR-KA (LM-0636.MSD)
MSDS for HYDROCHLORIC ACID, 0.001N TO 1.5N, METHANOLIC

5 -HEALTH HAZARD DATA (continued)

EFFECTS OF OVEREXPOSURE

INHALATION: PULMONARY EDEMA, CIRCULATORY FAILURE, RESPIRATORY SYSTEM
DAMAGE, COLLAPSE, COUGHING, DIFFICULT BREATHING

SKIN CONTACT: SEVERE BURNS

EYE CONTACT: SEVERE BURNS

SKIN ABSORPTION: NONE IDENTIFIED

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

CHRONIC EFFECTS: NONE IDENTIFIED

TARGET ORGANS

RESPIRATORY SYSTEM, EYES, SKIN

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE
NONE IDENTIFIED

IMARY ROUTES OF ENTRY

INGESTION, INHALATION, SKIN CONTACT, EYE CONTACT

EMERGENCY AND FIRST AID PROCEDURES

INGESTION: CALL A PHYSICIAN. IF SWALLOWED, DO NOT INDUCE VOMITING. IF
CONSCIOUS, GIVE WATER, MILK, OR MILK OF MAGNESIA.

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 HYDROGEN CHLORIDE (RQ = 1 LB, TPQ
= 500 LBS)

CERCLA HAZARDOUS SUBSTANCE: YES CONTAINS HYDROCHLORIC ACID (RQ = 5000 LBS)

LA-MAR-KA (LM-0636.MSD)

MSDS for HYDROCHLORIC ACID, 0.001N TO 1.5N, METHANOLIC

5 -HEALTH HAZARD DATA (continued)

SARA 313 TOXIC CHEMICALS: YES CONTAINS HYDROCHLORIC ACID
GENERIC CLASS: C16
TSCA INVENTORY: YES

6 -REACTIVITY DATA

METHANOL:

STABILITY: STABLE

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS TO AVOID: HEAT, FLAME, OTHER SOURCES OF IGNITION

INCOMPATIBLES: STRONG OXIDIZING AGENTS, STRONG ACIDS, ZINC, ALUMINUM,
MAGNESIUM

DECOMPOSITION PRODUCTS: CARBON MONOXIDE, CARBON DIOXIDE, FORMALDEHYDE

HYDROCHLORIC ACID:

STABILITY: STABLE

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS TO AVOID: HEAT, MOISTURE

COMPATIBLES: MOST COMMON METALS, WATER, AMINES, METAL OXIDES,
ACETIC ANHYDRIDE, PROPIOLACTONE, VINYL ACETATE,
MERCURIC SULFATE, CALCIUM PHOSPHIDE, FORMALDEHYDE,
ALKALIES, CARBONATES, STRONG BASES, SULFURIC ACID,
CHLOROSULFONIC ACID

DECOMPOSITION PRODUCTS: HYDROGEN CHLORIDE, HYDROGEN, CHLORINE

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. SHUT OFF IGNITION SOURCES; NO
FLARES, SMOKING OR FLAMES IN AREA. VENTILATE AREA. NEUTRALIZE
SPILL WITH SODA ASH OR LIME. WITH CLEAN SHOVEL, CAREFULLY PLACE MATERIAL
INTO CLEAN, DRY CONTAINER AND COVER; REMOVE FROM AREA. FLUSH SPILL AREA
WITH WATER.

DISPOSAL PROCEDURE

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

EPA HAZARDOUS WASTE NUMBER: D002 (CORROSIVE WASTE)

LA-MAR-KA (LM-0636.MSD)
MSDS for HYDROCHLORIC ACID, 0.001N TO 1.5N, METHANOLIC

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 200 PPM, A CHEMICAL CARTRIDGE RESPIRATOR WITH ACID CARTRIDGE IS RECOMMENDED. ABOVE THIS LEVEL, A SELF-CONTAINED BREATHING APPARATUS IS ADVISED.

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

9 - STORAGE AND HANDLING PRECAUTIONS

LA-MAR-KA STORAGE COLOR CODE: RED (FLAMMABLE)
WHITE (CORROSIVE)

STORAGE REQUIREMENTS

KEEP CONTAINER TIGHTLY CLOSED. STORE IN CORROSION-PROOF AREA. ISOLATE FROM INCOMPATIBLE MATERIALS. DO NOT STORE NEAR OXIDIZING MATERIALS.

-TRANSPORTATION DATA AND ADDITIONAL INFORMATION

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 FOR 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.

DO A 060740
CONFIDENTIAL

LA-MAR-KA (LM-0636.MSD)

MSDS for HYDROCHLORIC ACID, 0.001N TO 1.5N, METHANOLIC

10 -TRANSPORTATION DATA AND ADDITIONAL INFORMATION (continued)

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.