


BARTEK Ingredients Inc.

A Taste for Today and Tomorrow

 BARTEK INGREDIENTS INC.
 421 SEAMAN STREET
 STONEY CREEK, ONTARIO, L8E 3J4
 CANADA
 905-662-3292

PRODUCT: DL MALIC ACID
SECTION 01: IDENTIFICATION

PRODUCT IDENTIFIER..... DL MALIC ACID
 OTHER MEANS OF IDENTIFICATION..... HYDROXYBUTANEDIOIC ACID.
 RECOMMENDED USE AND FOOD ACIDULANT, CHELATING AGENT.
 RESTRICTIONS ON USE
 SUPPLIER IDENTIFIER..... BARTEK INGREDIENTS INC.
 421 SEAMAN STREET
 STONEY CREEK
 ONTARIO
 CANADA
 L8E 3J4
 905-662-3292
 EMERGENCY PHONE NO..... CHEMTRAC: 800-424-9300.

SECTION 02: HAZARD IDENTIFICATION


HAZARD CLASSIFICATION..... ACUTE TOXICITY (ORAL) - CATEGORY 4. SKIN IRRITATION — CATEGORY 2. SERIOUS EYE DAMAGE - CATEGORY 1. SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - CATEGORY 3.
 SIGNAL WORD..... DANGER.
 HAZARD STATEMENT..... H302 HARMFUL IF SWALLOWED. H315 CAUSES SKIN IRRITATION. H318 CAUSES SERIOUS EYE DAMAGE. H335 MAY CAUSE RESPIRATORY IRRITATION.
 PRECAUTIONARY STATEMENT..... P261 AVOID BREATHING DUST/FUME/GAS/MIST/VAPOURS/SPRAY. P264 WASH SKIN THOROUGHLY AFTER HANDLING. P270 DO NOT EAT, DRINK OR SMOKE WHEN USING THIS PRODUCT. P271 USE ONLY OUTDOORS OR IN A WELL-VENTILATED AREA. P280 WEAR PROTECTIVE GLOVES/PROTECTIVE CLOTHING/EYE PROTECTION/FACE PROTECTION. P301+P312 IF SWALLOWED: CALL A POISON CENTER OR DOCTOR/PHYSICIAN IF YOU FEEL UNWELL. P302+P352 IF ON SKIN: WASH WITH PLENTY OF SOAP AND WATER. P304+P340 IF INHALED: REMOVE VICTIM TO FRESH AIR AND KEEP AT REST IN A POSITION COMFORTABLE FOR BREATHING. P305+P351+P338 IF IN EYES: RINSE CAUTIOUSLY WITH WATER FOR SEVERAL MINUTES. REMOVE CONTACT LENSES, IF PRESENT AND EASY TO DO. CONTINUE RINSING. P310 IMMEDIATELY CALL A POISON CENTER OR DOCTOR/PHYSICIAN. P321 SPECIFIC TREATMENT (SEE ... ON THIS LABEL). P330 RINSE MOUTH. P332+P313 IF SKIN IRRITATION OCCURS: GET MEDICAL ADVICE/ATTENTION. P362 TAKE OFF CONTAMINATED CLOTHING. P403+P233 STORE IN A WELL-VENTILATED PLACE. KEEP CONTAINER TIGHTLY CLOSED. P405 STORE LOCKED UP. P501 DISPOSE OF CONTENTS/CONTAINER TO APPROPRIATE WASTE SITE OR RECLAIMER IN ACCORDANCE WITH LOCAL AND NATIONAL REGULATIONS.
 HAZARDS NOT OTHERWISE CLASSIFIED (HNOC) OR NOT COVERED BY GHS: NONE.

SECTION 03: COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENTS	CAS #	WT. %
DL MALIC ACID	6915-15-7	>99

SECTION 04: FIRST AID MEASURES

INHALATION..... REMOVE PERSON FROM THE AREA OF CONTAMINATION TO FRESH AIR.
 EYE CONTACT..... FLUSH EYES WITH CLEAN WATER, LIFTING EYELIDS OCCASIONALLY, FLUSH WITH WATER FOR 15 MINUTES.
 SKIN CONTACT..... WASH AFFECTED BODY AREAS WITH LARGE VOLUMES OF WATER, IF IRRITATION PERSISTS, SEE A PHYSICIAN. .
 INGESTION..... OBTAIN MEDICAL ATTENTION IMMEDIATELY.
 MOST IMPORTANT SYMPTOMS AND SEE SECTION 11.
 EFFECTS, ACUTE OR DELAYED:

PRODUCT: DL MALIC ACID**SECTION 04: FIRST AID MEASURES**

INDICATION OF ANY IMMEDIATE MEDICAL N.A.V.
ATTENTION AND SPECIAL TREATMENT
NEEDED

SECTION 05: FIRE FIGHTING MEASURES

FLAMMABILITY..... NOT COMBUSTIBLE/NOT FLAMMABLE.
EXTINGUISHING MEDIA..... WATER, CARBON DIOXIDE, DRY CHEMICALS.
HAZARDOUS COMBUSTION PRODUCTS. TOXIC FUMES OF CARBON MONOXIDE, CARBON DIOXIDE.
SPECIAL HAZARDS ARISING FROM THE PRODUCT: THIS MATERIAL MAY FORM FLAMMABLE DUST-AIR MIXTURES WHEN FINELY DIVIDED. PREVENT DUST BUILD-UP BY PROVIDING ADEQUATE VENTILATION.
SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE-FIGHTERS: FIREFIGHTERS SHOULD WEAR PROPER PROTECTIVE EQUIPMENT AND SELF-CONTAINED BREATHING APPARATUS.

SECTION 06: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS..... WEAR APPROPRIATE PROTECTIVE EQUIPMENT AND CLOTHING DURING CLEAN-UP.
ENVIRONMENTAL PRECAUTIONS..... AVOID RUN-OFFS TO SEWERS OR WATERWAYS.
METHODS FOR CONTAINMENT..... CONTAIN THE DISCHARGED MATERIAL.
METHODS FOR CLEANING UP..... SWEEP UP WITH BROOM OR VACUUM. IN CASE OF ACID SOLUTION, NEUTRALISE WITH EXCESS SODA ASH OR SODIUM BICARBONATE, MIX AND SCOOP UP SLURRY. WASH RESIDUAL WITH WATER. EMPTY CONTAINERS SHOULD BE TRANSPORTED/DELIVERED USING A REGISTERED WASTE CARRIER FOR LOCAL RECYCLING OR WASTE DISPOSAL.

SECTION 07: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING:..... INITIATE NORMAL SAFETY PROCEDURES. AVOID DUST FORMATION. AVOID ALL DIRECT CONTACT WITH THIS MATERIAL. LAUNDER CONTAMINATED CLOTHING BEFORE REUSE. USE GOOD PERSONAL HYGIENE AND GOOD HOUSEKEEPING.
CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES:..... DO NOT STORE WITH OXIDANTS, STRONG BASES, AMINES, CARBONATE, AND ALKALI METALS. STORE IN A COOL DRY PLACE. KEEP CONTAINERS SEALED TO AVOID CONTAMINATION AND SPILLAGE. PACKAGING MATERIALS: PAPER BAGS WITH POLYETHYLENE LINERS AND FIBRE BULK BAGS.

SECTION 08: EXPOSURE CONTROLS AND PERSONAL PROTECTION

INGREDIENTS	TWA	ACGIH TLV STEL	PEL	OSHA PEL STEL	REL	NIOSH
DL MALIC ACID	N.A.V.	N.A.V.	N.A.V.	N.A.V.	N.A.V.	N.A.V.
APPROPRIATE ENGINEERING CONTROLS PREVENT DUST BUILDUP BY PROVIDING ADEQUATE VENTILATION.						
INDIVIDUAL PROTECTION MEASURE SUCH AS PERSONAL PROTECTIVE EQUIPMENTS:						
EYE PROTECTION.....	SAFETY GLASSES WITH SIDE SHIELDS, CHEMICAL GOGGLES IF CONTACT LIKELY.					
HAND PROTECTION.....	PROTECTIVE GLOVES RECOMMENDED.					
RESPIRATORY PROTECTION.....	MAKE FACE MASKS AVAILABLE IF VENTILATION INADEQUATE.					
PROTECTIVE CLOTHING.....	WEAR APPROVED PROTECTIVE WORK BOOTS, WORK CLOTHING. SOME FORM OF HAT OR HAIR COVERING.					
PROTECTIVE FOOTWEAR.....	SEE ABOVE.					
OTHER.....	MAINTAIN EYE WASH FACILITY IN WORK AREA. WASH HANDS BEFORE CONSUMPTION OF FOOD OR DRINK.					

SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE..... SOLID.
ODOUR..... ODOURLESS.
ODOUR THRESHOLD..... N.A.V.
COLOR..... WHITE, GRANULES OR CRYSTALLINE POWDER.
PH..... 1.95 (5%) W/V @ 25 C.
BOILING POINT..... N.A.P.
MELTING/FREEZING POINT..... 130 (C).
FLASH POINT (C), METHOD..... N.A.P.
EVAPORATION RATE..... N.A.P.
FLAMMABILITY (SOLIDS AND GASES)..... N.A.V.
UPPER FLAMMABLE LIMIT (% BY VOL.)... UNKNOWN.
LOWER FLAMMABLE LIMIT (% BY VOL.)... 0.091 G/L.
VAPOUR PRESSURE (MMHG)..... <0.1MM @ 20 C.

PRODUCT: DL MALIC ACID**SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES**

VAPOUR DENSITY (AIR=1)..... 4.6.
 BY VOLUME
 BY WEIGHT
 RELATIVE DENSITY..... 1.601.
 SOLUBILITY IN WATER (% W/W)..... 58% W/W @ 25 (C).
 COEFFICIENT OF WATER/OIL DIST..... N.AV.
 AUTO IGNITION TEMPERATURE..... 339 (C).
 DECOMPOSITION TEMPERATURE..... N.AV.
 VISCOSITY..... N.AV.

SECTION 10: STABILITY AND REACTIVITY

REACTIVITY:..... HAZARDOUS POLYMERISATION WILL NOT OCCUR.
 CHEMICAL STABILITY:..... STABLE AT NORMAL TEMPERATURES.
 POSSIBILITY OF HAZARDOUS REACTIONS:..... UNDER NORMAL CONDITIONS OF STORAGE AND USE, HAZARDOUS REACTIONS WILL NOT OCCUR.
 CONDITIONS TO AVOID:..... TEMPERATURES OVER 80 (C) AND MOISTURE. CONTACT WITH INCOMPATIBLES.
 INCOMPATIBLE MATERIALS:..... STRONG OXIDANTS, STRONG BASES, ALKALI METALS, AMINES, AND CARBONATES.
 HAZARDOUS PRODUCTS OF DECOMPOSITION MALEIC ACID, MALEIC ANHYDRIDE, CARBON MONOXIDE, AND CARBON DIOXIDE.

SECTION 11: TOXICOLOGICAL INFORMATION

INGREDIENTS	LC50	LD50
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DL MALIC ACID

N.AV.

LD50 (ORAL, MOUSE):
 1600-3200 MG/KG; LD50
 (INTRAPERITONEAL, RAT):
 100-200 MG/KG.

INFORMATION ON LIKELY ROUTES OF ENTRY:

SKIN CONTACT..... IRRITATING TO SKIN.
 EYE CONTACT..... IRRITATING TO EYES.
 INHALATION..... N.AV.
 INGESTION..... N.AV.

INFORMATION ON TOXICOLOGICAL EFFECTS:

EFFECTS OF ACUTE EXPOSURE..... SKIN IRRITATION (RABBIT): MILD. EYE IRRITATION (RABBIT): MODERATE.
 EFFECTS OF CHRONIC EXPOSURE..... N.AV.
 INHALATION, CHRONIC..... N.AV.
 CARCINOGENICITY OF MATERIAL..... IARC: NOT LISTED.
 REPRODUCTIVE EFFECTS..... N.AV.
 SENSITIZING CAPABILITY OF MATERIAL..... N.AV.
 SYNERGISTIC MATERIALS..... N.AV.

SECTION 12: ECOLOGICAL CONSIDERATIONS

ECOTOXICITY..... TOXICITY TO FISH LC=295 MG/L.
 BIODEGRADATION..... PART OF THE KREBS CYCLE.
 BOD (BIOCHEMICAL OXYGEN DEMAND)..... 1% SOLUTION 15000 MG/L; 10% SOLUTION 31500 MG/L; 30% SOLUTION 63000 MG/L.
 COD (CHEMICAL OXYGEN DEMAND)..... RATING 0.981 O2/MG.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE TREATMENT METHODS:..... DISPOSE OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.

SECTION 14: TRANSPORT INFORMATION

CANADA:
 TDG CLASSIFICATION:..... NOT REGULATED.
 USA:
 D.O.T. CLASSIFICATION:..... NOT REGULATED.
 PROPER SHIPPING NAME..... N.AP.
 UN NUMBER..... N.AP.
 PACKING GROUP..... N.AP.
 ENVIRONMENTAL HAZARDS ACCORDING TO THE INTERNATIONAL MARITIME DANGEROUS GOODS CODE AND THE UNITED NATIONS MODEL REGULATIONS:..... N.AV.

PRODUCT: DL MALIC ACID**SECTION 14: TRANSPORT INFORMATION**

SPECIAL INSTRUCTIONS:..... N.AV.

SECTION 15: REGULATORY INFORMATIONSAFETY, HEALTH AND ENVIRONMENTAL N.AV.
REGULATIONS SPECIFIC TO THE
PRODUCT:**SECTION 16: OTHER INFORMATION**

ADDITIONAL INFORMATION..... BARTEK INGREDIENTS INC. CANNOT ANTICIPATE ALL CONDITIONS UNDER WHICH THIS INFORMATION AND ITS PRODUCT, OR THE PRODUCTS OF OTHER MANUFACTURERS IN COMBINATION WITH ITS PRODUCT, MAY BE USED. IT IS THE USERS' RESPONSIBILITY TO ENSURE SAFE CONDITIONS FOR HANDLING, STORAGE AND DISPOSAL OF THE PRODUCT, AND TO ASSUME LIABILITY FOR LOSS, INJURY, DAMAGE OR EXPENSE DUE TO IMPROPER USE. THIS INFORMATION IS GIVEN IN GOOD FAITH, BUT NO WARRANTY, EXPRESS OR IMPLIED IS MADE.

N.AP.=NOT APPLICABLE

N.AV.=NOT AVAILABLE

PREPARED BY..... REGULATORY AFFAIRS.

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