


**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, 50-60% SOLUTION, TYPE A**
**SECTION 01: IDENTIFICATION**

PRODUCT IDENTIFIER..... DL MALIC ACID, 50-60% SOLUTION, TYPE A  
 OTHER MEANS OF IDENTIFICATION..... N.AV.  
 RECOMMENDED USE AND ..... FOOD ACIDULANT, CHELATING AGENT.  
 RESTRICTIONS ON USE  
 SUPPLIER IDENTIFIER..... BARTEK INGREDIENTS INC.  
 421 SEAMAN STREET  
 STONEY CREEK  
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 L8E 3J4  
 905-662-3292  
 EMERGENCY PHONE NO..... CANUTEC (613)-996-6666 (24 HR).

**SECTION 02: HAZARD IDENTIFICATION**


HAZARD CLASSIFICATION..... ACUTE TOXICITY (ORAL) - CATEGORY 4. SKIN IRRITATION — CATEGORY 2. SERIOUS EYE DAMAGE - CATEGORY 1. SKIN SENSITIZATION - CATEGORY 1. SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - CATEGORY 3. ACUTE AQUATIC TOXICITY - CATEGORY 3.

SIGNAL WORD..... DANGER.

HAZARD STATEMENT..... H302 HARMFUL IF SWALLOWED. H315+H320 CAUSES SKIN AND EYE IRRITATION. H317 MAY CAUSE AN ALLERGIC SKIN REACTION. H318 CAUSES SERIOUS EYE DAMAGE. H335 MAY CAUSE RESPIRATORY IRRITATION. H402 HARMFUL TO AQUATIC LIFE.

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. P272 CONTAMINATED WORK CLOTHING SHOULD NOT BE ALLOWED OUT OF THE WORKPLACE. P273 AVOID RELEASE TO THE ENVIRONMENT. P280 WEAR PROTECTIVE GLOVES/PROTECTIVE CLOTHING/EYE PROTECTION/FACE PROTECTION. P301+P312+P330 IF SWALLOWED: CALL A POISON CENTER OR DOCTOR/PHYSICIAN IF YOU FEEL UNWELL. RINSE MOUTH. P302+P352 IF ON SKIN: WASH WITH PLENTY OF SOAP AND WATER. P304+P340+P312 IF INHALED: REMOVE VICTIM TO FRESH AIR AND KEEP COMFORTABLE FOR BREATHING. CALL A POISON CENTER OR DOCTOR/PHYSICIAN IF YOU FEEL UNWELL. P305+P351+P338+P310 IF IN EYES: RINSE CAUTIOUSLY WITH WATER FOR SEVERAL MINUTES. REMOVE CONTACT LENSES, IF PRESENT AND EASY TO DO. CONTINUE RINSING. IMMEDIATELY CALL A POISON CENTER OR DOCTOR/PHYSICIAN. P333+P313 IF SKIN IRRITATION OR RASH OCCURS: GET MEDICAL ADVICE/ATTENTION. P337+P313 IF EYE IRRITATION PERSISTS: 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	45-65
MALEIC ACID	110-16-7	<12
FUMARIC ACID	110-17-8	<4

**PRODUCT: DL MALIC ACID, 50-60% SOLUTION, TYPE A****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..... IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED THE PERSON IS CONSCIOUS. GET MEDICAL ATTENTION IMMEDIATELY.  
 MOST IMPORTANT SYMPTOMS AND ..... SEE SECTION 11.  
 EFFECTS, ACUTE OR DELAYED:  
 INDICATION OF ANY IMMEDIATE MEDICAL N.AV.  
 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: N.AV.  
 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..... NEUTRALIZE 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 ALL DIRECT CONTACT WITH THIS MATERIAL. LAUNDRER CONTAMINATED CLOTHING BEFORE REUSE. USE GOOD PERSONAL HYGIENE AND GOOD HOUSEKEEPING.  
 CONDITIONS FOR SAFE STORAGE, ..... DO NOT STORE WITH OXIDANTS, STRONG BASES, AMINES, CARBONATE, AND INCLUDING ANY INCOMPATIBILITIES: ALKALI METALS. STORE IN A COOL DRY PLACE. KEEP CONTAINERS SEALED TO AVOID CONTAMINATION AND SPILLAGE.

**SECTION 08: EXPOSURE CONTROLS AND PERSONAL PROTECTION**

INGREDIENTS	ACGIH TLV		OSHA PEL		NIOSH
	TWA	STEL	PEL	STEL	
DL MALIC ACID	N.AV.	N.AV.	N.AV.	N.AV.	N.AV.
MALEIC ACID	N.AV.	N.AV.	N.AV.	N.AV.	N.AV.
FUMARIC ACID	N.AV.	N.AV.	N.AV.	N.AV.	N.AV.
APPROPRIATE ENGINEERING CONTROLS	PROVIDE CORROSION RESISTANT STORAGE TANKS AND TRANSFER LINES. PROVIDE ADEQUATE VENTILATION. A LOCAL AND/OR GENERAL EXHAUST IS RECOMMENDED.				
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.....	USE NIOSH/OSHA APPROVED RESPIRATOR.				
PROTECTIVE CLOTHING.....	WEAR APPROVED PROTECTIVE WORK BOOTS, WORK CLOTHING. SOME FORM OF HAT OR HAIR COVERING.				
PROTECTIVE FOOTWEAR.....	SEE ABOVE.				
OTHER.....	EYE WASH AND SAFETY SHOWER SHOULD BE AVAILABLE NEARBY WHEN THIS PRODUCT IS HANDLED OR USED. WASH HANDS BEFORE CONSUMPTION OF FOOD OR DRINK.				

**PRODUCT: DL MALIC ACID, 50-60% SOLUTION, TYPE A****SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES**

PHYSICAL STATE.....	LIQUID.
ODOUR.....	MILD.
ODOUR THRESHOLD.....	N.AV.
COLOR.....	WATER-WHITE.
PH.....	N.AV.
BOILING POINT.....	101 (C) INITIAL.
MELTING/FREEZING POINT.....	-9 (C) TO -14 (C).
FLASH POINT (C), METHOD.....	N.AP.
EVAPORATION RATE.....	N.AP.
FLAMMABILITY (SOLIDS AND GASES).....	N.AV.
UPPER FLAMMABLE LIMIT (% BY VOL.)...	UNKNOWN.
LOWER FLAMMABLE LIMIT (% BY VOL.)...	UNKNOWN.
VAPOUR PRESSURE (MMHG).....	N.AV.
VAPOUR DENSITY (AIR=1).....	N.AV.
BY VOLUME	
BY WEIGHT	
RELATIVE DENSITY.....	1.23.
SOLUBILITY IN WATER (% W/W).....	ALL PROPORTIONS.
COEFFICIENT OF WATER/OIL DIST.....	N.AV.
AUTO IGNITION TEMPERATURE.....	N.AV.
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
REACTIONS:	WILL NOT OCCUR.
CONDITIONS TO AVOID:.....	EXCESSIVE HEAT.
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
DL MALIC ACID	N.AV.	LD50 (ORAL, MOUSE): 1600-3200 MG/KG; LD50 (INTRAPERITONEAL, RAT): 100-200 MG/KG.
MALEIC ACID	N.AV.	N.AV.
FUMARIC ACID	N.AV.	9300 MG/KG (ORAL, RAT-RODENT); 100 MG/KG (INTRAPERITONEAL, MOUSE).

## INFORMATION ON LIKELY ROUTES OF ENTRY:

SKIN CONTACT.....	IRRITATING TO SKIN.
EYE CONTACT.....	IRRITATING TO EYES.
INHALATION.....	IRRITATING TO MUCOUS MEMBRANES.
INGESTION.....	HARMFUL IF SWALLOWED.

## INFORMATION ON TOXICOLOGICAL EFFECTS:

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

**SECTION 12: ECOLOGICAL CONSIDERATIONS**

ECOTOXICITY.....	UNKNOWN.
BOD (BIOCHEMICAL OXYGEN DEMAND).....	UNKNOWN.
COD (CHEMICAL OXYGEN DEMAND).....	UNKNOWN.

**PRODUCT: DL MALIC ACID, 50-60% SOLUTION, TYPE A****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 N.AV.

TO THE INTERNATIONAL MARITIME

DANGEROUS GOODS CODE AND THE

UNITED NATIONS MODEL REGULATIONS:

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

**SECTION 15: REGULATORY INFORMATION**

SAFETY, 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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