

**BRENNTAG MID-SOUTH, INC.****MATERIAL SAFETY DATA SHEET**

Effective Date: November 7, 2007

CITRIC ACID SOLUTION

SECTION I - MATERIAL IDENTIFICATION
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EMERGENCY TELEPHONE NUMBER:**BRENNTAG MID-SOUTH, INC.*****(270) 830-1222**1405 Highway 136 West / Geneva Road
Henderson, Kentucky 42420**CHEMICAL NAME AND SYNONYMS:** Citric Acid Solution 1 to 51%**CHEMICAL FAMILY:** organic acid**FORMULA:** C₆H₈O₇

* NOTE: Maybe manufactured at various locations.

SECTION II - HAZARDOUS INGREDIENTS

CAS NUMBER	CHEMICAL NAME(S)	WT %	THRESHOLD LIMIT VALUES (UNITS)			
			OSHA:		ACGIH:	
			PEL	STEL	TLV	STEL
77-92-9	Citric acid	1 - 51	N.E.	N.E.	N.E.	N.E.
7732-18-5	Water	Balance	— NONE ESTABLISHED —			

**This product does not contain any chemical (s) subject to reporting requirements of Section 313, Title III of SARA, Part 372.

SECTION III - PHYSICAL DATA

BOILING POINT °F (°C): >212°F(>100°C)**SPECIFIC GRAVITY (H₂O=1):** 1.01 - 1.24**VAPOR DENSITY (AIR =1):** 0.62**PERCENT VOLATILE BY VOLUME (%):** 49 - 99%**VAPOR PRESSURE (mmHg):** 17.5 @ 20°C**EVAPORATION RATE:** (butyl acetate = 1): 0.33**SOLUBILITY IN WATER:** Complete**APPEARANCE AND ODOR:** Clear liquid with no odor.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA
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FLASH POINT (METHOD USED): N.A.**FLAMMABLE LIMITS (% BY VOLUME):** N.A.**EXTINGUISHING MEDIA:** Use as appropriate for surrounding fire.**SPECIAL FIRE FIGHTING PROCEDURES:** Firefighters should wear protective clothing including a self-contained breathing apparatus.**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Citric acid solution in contact with some metals may release explosive hydrogen gas.



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SECTION V - HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE:

INHALATION: Inhalation of mist or spray may cause irritation.

EYE CONTACT: May irritate eyes.

SKIN CONTACT: May irritate skin upon prolonged or repeated over-exposure.

INGESTION: None listed

PRIMARY ROUTES OF ENTRY: Inhalation, eyes and skin, ingestion.

CHEMICAL LISTED AS CARCINOGEN OR POTENTIAL CARCINOGEN: NTP/No IARC/No OSHA/No

EMERGENCY AND FIRST AID PROCEDURES:

INHALATION: Remove victim to fresh air. Give artificial respiration if not breathing. Get prompt medical attention.

EYE CONTACT: Flush eyes with plenty of water while holding eyelids open. Get prompt medical attention if irritation occurs.

SKIN CONTACT: Flush skin with plenty of water. Remove and wash contaminated clothing prior to reuse.

INGESTION: Seek medical attention.

SECTION VI – TOXICOLOGICAL INFORMATION

For 100% Citric acid: (rat)

Oral LD50 – 11,700 mg/kg

Dermal (acute) – 500 mg/24 hr, moderate

Eye – 750 mg/24 hr, severe

SECTION VII – ECOLOGICAL INFORMATION

No information available

SECTION VIII - REACTIVITY DATA

STABILITY: Stable

HAZARDOUS POLYMERIZATION: none

CONDITIONS TO AVOID: Avoid evaporating to dryness and generating dust.

INCOMPATIBILITY (MATERIALS TO AVOID): Metal nitrates, carbonate, bicarbonates and strong oxidizers. Citric acid corrodes copper, zinc, aluminum and their alloys

HAZARDOUS DECOMPOSITION PRODUCTS: May release hydrogen gas with contact with copper, zinc, aluminum and their alloys



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SECTION IX - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Cover with soda ash or sodium bicarbonate to neutralize. Wash with water into approved sewer.

WASTE DISPOSAL METHOD: All procedures should be done in accordance with all state, local and federal regulations.

SECTION X - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: None required..

VENTILATION: Good local ventilation.

PROTECTIVE GLOVES: Rubber/vinyl

EYE PROTECTION: Chemical splash goggles.

OTHER PROTECTIVE EQUIPMENT: Clothing to prevent prolonged or repeated skin contact. Eye wash fountain, safety shower.

SECTION XI - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Follow normal good manufacturing practices in handling and storage. Store above 32°F for low concentrations; 25°F for 25% by weight; 16°F for 50% by weight.

OTHER PRECAUTIONS: Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling.

HAZARD RATING: Health 1

Flammability 0

Reactivity 0

SECTION XII - D.O.T. SHIPPING INFORMATION

PROPER SHIPPING NAME: Corrosive liquid, acidic, organic, n.o.s. (Citric Acid)

HAZARD CLASS: 8 (Corrosive)

UN/NA: UN3265

PACKING GROUP: III

D.O.T. LABEL REQUIRED: Corrosive

REPORTABLE QUANTITY OF PRODUCT: N.A.



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SECTION XIII – REGULATORY INFORMATION

This Regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

TSCA (Toxic Substance Control Act): All components of this product are listed on the TSCA inventory.


Super Fund Amendments and Reauthorization Act (SARA) of 1986, Section 313, Title III, CFR 40 Part 372: none

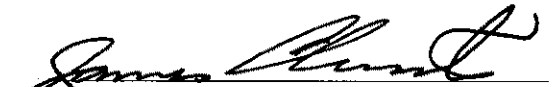
CERCLA RQ 40 CFR302.4: none

SARA TITLE III: HAZARD CLASSIFICATIONS: Acute: yes Chronic: no Fire: no Pressure: no Reactivity: no

SARA 302 Components 40 CFR 370.2: None

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