### Material Safety Data Sheet

May be used to comply with OSHA’s Hazard Communication Standard, 29 CFR 1910.1200. Standard must be consulted for specific requirements.

### Identity (as Used on Label and List)

**Citric Acid**

The information contained herein is based on data considered accurate. However, no warranty of any nature is either expressed or implied with respect to the product or the data contained herein.

### Section I

**Manufacturer’s Name**
Animal Science Products, Inc.

**Address**
PO Box 631408
Nacogdoches
Texas 75963-1408

**Emergency Telephone Number**
1-800-424-9300 Chemtrec

**Telephone Number for Information**
1-936-560-0003

**Date Prepared**
11/10/2010

**Signature of Preparer (Optional)**

### Section II – Hazardous Ingredients / Identity Information

**Hazardous Components (Specific Chemical Identity; Common Name(s))**
- Citric Acid Anhydrous >99%

**OSHA PEL:**
- 15 mg/m³ TWA (Total dust)
- 5 mg/m³ TWA (Respirable fraction)

**ACGIH:**
- 4 mg/m³ TWA (Inhalable fraction)
- 1.5 mg/m³ TWA (Respirable fraction)

### Section III– Physical/Chemical characteristics

- **Boiling Point:** NA
- **Specific Gravity (H₂O=1):** NA
- **Vapor Pressure (mm Hg.):** NA
- **Melting Point:** 307° F
- **Vapor Density (AIR=1):** NA
- **Evaporating Rate (Butyl Acetate=1):** NA

**Solubility in Water:** At 77° 162 g/100 ml

**Appearance and Odor:** Colorless crystals, granules, or white powder; odorless, strong acid taste

### Section IV – Fire and Explosion Hazard Data

**Flash Point (Method Used):** NA

**Flammable Limits: NA**

**LEL: NA**

**LEL NA**

**Extinguishing Media:** Water fog, carbon dioxide, or dry chemical

**Special Fire Fighting Procedures:** Firefighters should wear a self-contained breathing apparatus with full face piece operated in pressure-demand or other positive pressure mode.

**Unusual Fire and Explosion Hazard:** The dust of citric acid anhydrous and monohydrate can be explosive under some conditions, in air. Where dust concentrations exist sources of ignition should be eliminated. CITRIC ACID POSES A SERIOUS DUST EXPLOSION HAZARD.

### Section V – Reactivity Data

**Stability:** Stable under ordinary conditions of use and storage.

**Conditions to Avoid:** Heat, moisture and incompatible materials.

**Incompatibility:** Potentially explosive reaction with metal nitrates, strong bases, and oxidizers. Citric Acid is compatible with reducing agents. Citric Acid when wet or in solution is corrosive to brass, copper, zinc, aluminum and their alloys, lead, cast iron and steel (not stainless steel)

**Hazardous Decomposition or Byproducts:** Carbon dioxide and carbon monoxide are normal products of combustion. Incomplete combustion may produce irritating fumes and acrid smoke.

**Hazardous Polymerization:** Will not occur.

### Section VI – Health Hazard Data

**Route(s) of Entry:** Inhalation? Yes  Skin? Yes  Ingestion? Yes  Eyes? Yes

**Health Hazards (Acute and Chronic):**
- Eyes: Can cause irritation: Severe irritation of the eye indicated in rabbit eye testing.
- Skin: May cause irritation: Inhalation of dust may cause irritation of nasal and respiratory passages.
- Ingestion: In excess can cause gastrointestinal irritation. Oral LD (50) (mouse) 504 mg/kg (3) (rat) 11700 mg/kg

### Section VII – Precautions for Safe Handling and Use

**Steps to Be Taken in Case Material is Released or Spilled:** Vacuum or sweep up and shovel into containers. Workers should wear protective gloves, goggles and body-covering clothing. Residual material may be wetted, neutralized with soda ash or Sodium Bicarbonate, diluted with water, and wet vacuumed into containers for disposal. Keep out of natural waterways.

**Waste Disposal Method:** Subject to approval by federal, state, and local authorities unrecoverable product, dissolved in water, neutralized, and diluted by further addition of water may be washed to the sewer. With regard to citrate's effect on sewage treatment, citrate has been shown to be highly degradable, in laboratory-activated sludge systems. (0.2) consumptions, 98% of theoretical) and in trickling filters.

**Precautions to Be Taken in Handling and Storing:** Store in closed containers to prevent dusting. No open flames, sparks, or other sources of ignition where dusty atmospheric conditions may exist.

**Other Precautions:** None specified.
Section VIII – Control Measures

Respiratory Protection (Specify Type): If needed use a NIOSH/MSHA jointly approved dust respiratory.

Ventilation
- Local Exhaust: As needed to maintain exposure level below PEL/TLV for nuisance dust.
- Mechanical (General): See local exhaust
- Special: NA
- Other: NA

Protective Gloves: Rubber, vinyl, or latex
Eye Protection: Goggles or face shield for handling solutions; safety glasses for dusty conditions.
Other Clothing or Equipment: Safety shower, eye bath and washing facilities should be available.

Section IX – Statement

The information in this MSDS has been obtained from a number of reputable sources. However, its accuracy cannot be guaranteed. It is the user's responsibility to evaluate the information and use it in a prudent manner for its particular purpose. Animal Science Products, Inc. assumes no liability for the use of this information.

MSDS: Citric Acid
AUTHORIZED BY: Ryan Izard
ISSUE DATE: November 10, 2010

SIGNATURE: V Simmons
TITLE: Formulator Q/A Manager

— End of MSDS —