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Parker Hannifin Corp. / Water Purification

2630 E. El Presidio Street
 Carson, CA 90810

Material Safety Data Sheet

(Revision Date: 03/11/14)

Section 1: Chemical Product and Company Identification

Product Name: Cleaner #2

Contact Information:
Parker Hannifin Corp. /
Water Purification
2630 E. El Presidio Street
Carson, CA 90810
Phone #: (310) 608-5600
24 Hr. Emergency: 1-800-535-5053

Section 2: Composition and Information on Ingredients

Name	% by Weight	CAS RN #	Hazardous
Citric Acid	>70%	77-92-9-4	No

Section 3: Hazards Identification

Precautionary Overview: Odorless, colorless, translucent crystals/white granules to fine crystalline powder. Irritating to skin/respiratory tract; severely irritating to eyes. Other Acute effects: GI irritation, hypocalcemia. Chronic Effects: tooth enamel erosion. Explosive. Flammable.

Potential Acute Health Effects:

Organs: eyes, skin, respiratory system

Entry Routes: inhalation, ingestion, skin contact, eye contact Persons with impaired respiratory function, airway diseases, and conditions such as emphysema or chronic bronchitis may incur further disability if excessive concentrations of particulate are inhaled.

Eye: The material is moderately discomforting to the eyes and is capable of causing a mild, temporary redness of the conjunctiva (similar to wind-burn), temporary impairment of vision and/or other transient eye damage/ulceration. Dilute solutions of low-molecular organic acids cause conjunctival hyperemia, prompt pain and corneal injury. The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

Skin: The material may be mildly discomforting to the skin and may cause drying of the skin, which may lead to dermatitis.

The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterized by skin redness (erythema) and swelling (edema) which may progress to vesiculation, scaling and thickening of the epidermis. Histologically there may be intercellular edema of the spongy layer (spongiosis) and intracellular edema of the epidermis.

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Ingestion: Considered to be nontoxic. Small amounts or low dose rates are regarded as practically non-harmful but if swallowed in large quantity may be harmful. Considered an unlikely route of entry in commercial/industrial environments. Ingestion of low-molecular organic acid solutions may produce spontaneous hemorrhaging, intravascular coagulation, gastrointestinal damage and esophageal and pyloric stricture.

Carcinogenicity: NTP - Not listed; IARC - Not listed; OSHA - Not listed; NIOSH - Not listed; ACGIH - Not listed; EPA - Not listed; MAK - Not listed.

Chronic Effects: Excessive exposure to citric acid may result in irritation of the eyes, skin and mucous membranes of the respiratory tract. Citric acid occurs naturally in the body as a metabolite in the tricarboxylic acid cycle. It is a slight allergen for some people.

Section 4: First Aid Measures

Inhalation: Remove to fresh air. Encourage patient to blow nose to ensure clear breathing passages. Rinse mouth with water. Consider drinking water to remove dust from throat. Seek medical attention if irritation or discomfort persist.

Eye Contact: Immediately hold the eyes open and flush continuously for at least 15 minutes with fresh running water. Ensure irrigation under eyelids by occasionally lifting the upper and lower lids. Transport to hospital or doctor without delay. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

Skin Contact: Brush off dust. Wash affected areas thoroughly with water (and soap if available). Seek medical attention in event of irritation.

Ingestion: Rinse mouth out with plenty of water. Contact a Poison Control Center. Do NOT induce vomiting. Give a glass of water.

After first aid, get appropriate in-plant, paramedic, or community medical support.

Note to Physicians: Treat symptomatically. Simple antacid powders should be useful in the case of ingestion.

Section 5: Fire and Explosion Data

Flammability of the Product: May be combustible at high temperature.

Auto-Ignition Temperature: Powder 1010°C

Flash Point: N/A

Flammable Limits: LOWER:0.28 Kg/M3 (Dust) UPPER 2.29 Kg/M3 (Dust)

Products of Combustion: CO and CO₂.

Fire Fighting Media and Instructions: Use water spray or fog foam, dry chemical powder or carbon dioxide.

Section 6: Accidental Release Measures

Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Avoid contact with skin and eyes. Ensure adequate ventilation. Evacuate personnel to safe areas.

Do not let product enter drains.

Pick-up and arrange for disposal without creating dust. Keep in suitable, closed containers for disposal.

Section 7: Handling and Storage

HANDLING:

Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

STORAGE:

Keep container tightly closed in a dry and well-ventilated place.

Section 8: Exposure Controls/ Personal Protection

Engineering Controls: Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

Personal Protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use component tested and approved under government standards such as NIOSH (US) or CEN (EU).

Exposure Limits: None of the ingredients have established exposure limits.

Section 9: Physical and Chemical Properties

Physical State and Appearance: White odorless granules or powder. Soluble in alcohol and ether. At 175 °C begins to convert to various organic compounds (aconitic acid, acetonedicarboxylic acid, acetone).

Odor: Odorless

Vapor Pressure: N/A

Solubility: ≥ 100 mg/mL at 22 °C

pH (1% solution): 1.6 (10% w/v)

Boiling Point: Decomposes

Formula Weight: 192.13 g/mole

% Volatiles by volume: N/A

Melting Point: 153 °C

Section 10: Stability and Reactivity Data

Stability: Stable under recommended storage conditions.

Hazardous Decomposition Products: NA.

Hazardous Polymerization: will not occur.

Incompatibilities: Avoid storage with oxidizers, potassium tartrate, alkali, alkaline earth carbonates and bicarbonates, acetates, sulfides and metal nitrates.

Conditions to Avoid: Incompatibles.

Section 11: Toxicological Information**Toxicological Data:**

Oral-rat-LD50: 3,000 mg/kg

Irritation

Skin (rabbit): 500 mg/24h - mild Eye

(rabbit): 0.75 mg/24h-SEVERE

Carcinogenicity: N/A**Section 12: Ecological Information****Environmental Fate:** No information found.**Environmental Toxicity:** Freshwater Fish Data:

96 Hr LC50 bluegill sunfish: 490 mg/L (Static)(Ethylenediaminetetraacetic Acid, TetraSodium)

EC50-Daphnia-276.61 mg/L-48 h (Sodium Tripolyphosphate) : Aquatic toxicity: 894 ppm/4

hr/goldfish/killed/fresh water 160 ppm/48 hr/shore crab/TL_m/salt water **BCF:** no food chain

concentration potential

Biochemical Oxygen Demand (BOD): 40%, 5 days**Octanol/Water Partition Coefficient:** $\log K_{ow} = -1.72$ **Section 13: Disposal Considerations**

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

Section 14: Transport Information**Proper Shipping Name:** Not Regulated by D.O.T.**Hazard Class:** N/A**UN/NA:** N/A**Packing Group:** N/A**Reportable Quantity:** N/A**ERG:** N/A

Note: EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Section 15: Regulatory Information**EPA Regulations:****RCRA 40 CFR:** Not listed**CERCLA 40 CFR 302.4:** Not listed**SARA 40 CFR 372.65:** Not listed**SARA EHS 40 CFR 355:** Not listed**TSCA:** Listed**Section 16: Other Information****NFPA Rating:****Health: 2****Flammability: 1****Reactivity: 0**

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