Safety Data Sheet

Revision Issued: 05/11/2016	Supersedes: 05/28/2015	First Issued: 07/01/2010

Section I -- Identification

Product Name: SW original formula Patent No.: US 9,259,006		SmartWash® SDS No.: 01 Item Nos.: 010000
SmartWashSolutions SmartWash® Solutions LLC 1129 Harkins Rd. Salinas, CA 93901 831.676.9750 **Web Site:** www.smartwashsolutions.com	**Emergencies:** CHEMTREC: 1-800-424-9300 National Response in Canada CANUTEC: 613-996-6666 Outside US and Canada: CHEMTREC: 703-527-3887 **NOTE:** CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals. **Health Emergency:** Contact your Local Poison Center.	Flammability Health 2 0 Instability 0 COR Specific Hazard **NFPA Code**

Common Name	Synonyms	Uses
SmartWash®	SmartWash® conventional, SW, T128, F86-T128, Phosphoric Acid Compound—Food Grade	Food Grade Processing Aid, Food Processing Wash Water Adjuvant

Section II -- Hazard(s) Identification

Acute Toxicity—Oral:	Category 4.		
Acute Toxicity—Dermal:	Category 4.		
Acute Toxicity—Inhalation	Category 3.		
Eye Corrosion/Irritation:	Category 1.		
Skin Corrosion/Irritation:	Category 1C.		
Corrosive to Metals:	Category 1.		
Carcinogenicity Lists:	**IARC Monograph: No**	**NTP: No**	**OSHA: No**
Signal Word:	**DANGER**		
Hazard Symbol:			
Hazard Statements:	**Harmful if swallowed.** **Harmful in contact with skin.** **Toxic if inhaled.** **Causes severe skin burns and eye damage.** **Causes serious eye damage.** **May be corrosive to metals.**		

Section II (continued) -- Hazard(s) Identification	
Precautionary Statements	
Prevention:	Wash hands thoroughly after handling. Do not eat, drink or smoke while using this product. Wear protective gloves and clothing. Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Keep only in original container. Do not breathe dusts or mists. Wear eye protection.
Response:	Absorb spillage to prevent material damage. Take off contaminated clothing and wash it before reuse. IF SWALLOWED: Call a poison center or doctor if you feel unwell. Rinse mouth with water. Do NOT induce vomiting. IF ON SKIN: Wash with plenty of water. Call a poison center if you feel unwell. If skin irritation occurs get medical advice or attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a poison center or doctor if you feel unwell. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF EYE IRRITATION PERSISTS: get medical advice or attention.
Storage:	Store in corrosive resistant or original container. Store locked up.
Disposal:	Dispose of contents/container in accordance with local/regional/national/international regulations.

Section III -- Composition / Information On Ingredients

CHEMICAL NAME	CAS No.	% By Weight	LC50/LD50
Phosphoric Acid	7664-38-2	≤ 30.0%	See Section XI
Ingredient B (Trade Secret)	N/A	≤ 20.0%	
Water	7732-18-5	≥ 50.0%	

Section IV -- First Aid Measures

Eyes:	Immediately flush eyes (holding eyelids apart) with gentle but large stream of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately
Skin:	Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with emollient. Cold water may be used. Wash clothing before reuse. Get medical attention immediately. SERIOUS: Wash with a disinfectant soap and cover the contaminated skin with an antibacterial cream. Seek immediate medical attention.
Ingestion:	If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water (or milk, if available). Never give anything by mouth to an unconscious person. Call a physician immediately.
Inhalation:	Remove to fresh air. If not breathing, give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory device. If breathing is difficult, give oxygen. Observe for possible delayed reaction. Call a physician immediately. SERIOUS: Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie belt or waistband. If breathing is difficult, administer oxygen. It the victim is not breathing, perform mouth-to-mouth resuscitation . WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

Section V -- Fire Fighting Measures			
Flammability:	Non-flammable	**Auto-Ignition Temperature:**	Not Applicable
Flash Point:	Not Applicable	**Product of Combustion:**	Not Available
Unusual Fire and Explosion Hazards:	Not flammable. However the following hazards can occur with extreme heat: release of phosphorous oxides and/or phosphine from thermal decomposition and hydrogen from reaction with metals. Mixtures with nitromethane are explosive (Phosphoric Acid).		
Extinguishing Media:	Not flammable. Use most appropriate agent to extinguish surrounding material.		
Special Firefighting Procedure and Equipment:	Use any suitable means to extinguish surrounding material. Water spray may be used to cool containers exposed to heat, and use in abundance to control heat and acid build-up. Wear full protective clothing NIOSH approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode. Keep personnel removed from and upwind of fire.		

Section VI – Accidental Release Measures	
Small Spill:	Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. If necessary: neutralize the residue with sodium carbonate.
Large Spill:	Corrosive liquid. Poisonous liquid. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray curtain to divert vapor drift. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Neutralize the residue with sodium carbonate. Be careful that the product is not present at a concentration above TLV. Check TLV on the SDS and with local authorities.
Release Notes:	US Regulations (CERCLA) require reporting spills and releases to soil, water and air if in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.
Comments:	See Section XIII for disposal information and Section XV for regulatory requirements.

Section VII – Handling and Storage	
Precautions for Safe Handling:	Keep locked up. Keep container dry. Do not ingest. Do not breathe gas/fumes/vapor/spray. Never add water to this product, instead add this product to water in accordance with manufacturer's directions. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. May corrode metallic surfaces. Store in a metallic or coated fiberboard drum using a strong polyethylene inner package. Use appropriate personal protective equipment as specified in Section VIII. Avoid contact with skin and eyes. Avoid inhalation and ingestion.
Conditions for Safe Storage:	Keep in unopened or tightly closed container. Avoid temperatures below 32°F or above 104°F. Keep away from combustible materials, strong bases and metals. Never use unprotected steel containers.

Section VIII – Exposure Controls/ Personal Protection

Engineering Controls:

First Aid Equipment:	Maintain eye wash fountain and quick-drench facilities in work areas.
Ventilation Local /General:	Good ventilation should be sufficient to control airborne levels. A system of local and/or general exhaust is recommended to keep employee exposure below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emission of the vapor or mist at its source, preventing dispersion onto the general work areas.
Airborne Exposure Limits:	**OSHA Permissible Exposure Limit (PEL):** 1 mg/m^3 **BACGIH Threshold Limit Value (TLV):** 1 mg/m^3 (TWA), 3 mg/m^3 (STEL)

Personal Protection:

Exposure Below Limits:	Use chemical safety goggles and/or a full-face shield where splashing is possible. Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls as appropriate to prevent skin contact. See "EXPOSURE LIMITS," below, for vapor respirator.
Exposure Exceeds Limits: **Personal Respirators (NIOSH Approved):**	If exposure limit is exceeded, a full-face piece respirator with high-efficiency dust/mist filter may be worn in conditions up to 50 times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest.
Emergencies/Unknown Exposure Levels:	For emergencies or instances where the exposure levels are not known, use the full-face piece positive-pressure, air-supplied respirator. **WARNING** Air purifying respirators do not protect workers in oxygen-deficient atmospheres.

Section IX – Physical and Chemical Properties

Appearance:	Clear liquid.	**Boiling Point and Range:**	Approximately 100°C.
Melting/Freezing Point:	Not available.	**Flash Point:**	Not available.
Solubility:	Easily soluble in water.	**Vapor Pressure, mm Hg:**	2.3 kPa (at 20°C).
Specific Gravity:	1.12	**Molecular Weight:**	Not applicable.
Vapor Density (Air=1):	0.62	**% Volatiles:**	Not available.
Bulk Density:	9.35 lbs./gal.	**Evaporation Rate:**	Not applicable.
pH:	Acidic.	**Odor:**	Not available.
Viscosity:	Not available.	**Odor Threshold:**	Not available.

Section X — Stability and Reactivity

Stability:	The product is stable.
Reactivity:	Reacts with metals to liberate flammable hydrogen gas. Incompatible with sodium tetrahydroborate producing a violent exothermic reaction. Heat generated with: alcohols, glycols, aldehydes, amides, amines, azo-compounds, carbamates, caustics, esters, ketones, phenols and cresols, organophos-phates, epoxides, combustible materials, unsaturated halides, organic peroxides. Formation of flam-mable products with aldehydes, cyanides, mercaptins, and sulfides. Formation of toxic fumes with cyanides, fluorides, halogenated organics, sulfides, and organic peroxides. Do not mix directly with solutions containing bleach or ammonia except as directed for proper use. (Phosphoric Acid)
Conditions to avoid:	High temperatures.
Incompatible Materials:	Slightly reactive to reactive with oxidizing agents, combustible materials, metals and alkalis.
Hazardous Decomposition Products:	Phosphorous oxides and phosphine from thermal decomposition and hydrogen gas from reaction with metals.
Possibility of Hazardous Reactions:	Do not mix directly with solutions containing bleach (and other chlorine compounds) or ammonia.

Section X (continued) — Stability and Reactivity	
Special Remarks on Corrosivity:	Extremely corrosive in presence of copper, of stainless steel (304). Highly corrosive in presence of aluminum, of stainless steel (316). Non-corrosive in presence of glass. Corrosive to ferrous metals and alloys (Phosphoric Acid). Severe corrosive effect on brass. Minor corrosive effect on bronze.

Section XI Toxicological Information			
Routes of Exposure:	Absorbed through skin, Eye contact, and/or Inhalation		
Oral rat LD_{50} :	1530 mg/kg; Investigated as a mutagen		
Cancer Lists: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC, ACGIH, NTP, or OSHA.			
Ingredient:	- - - - - - - - - - - - - - - - - - NTP Carcinogen -		
	Known	Anticipated	LARC Category
Phosphoric Acid:	No	No	None
Ingredient B:	No	No	None
Water:	No	No	None

Toxicity to Animals:	**Acute Oral Toxicity:**	(Rat) LD_{50} = 1,530 mg/kg bw
	Acute Inhalation Toxicity:	(Guinea pig, mouse, rat, rabbit) 1-hr. LC_{50} = 61—1,689 mg/m^3 P_2O_5
	Acute Dermal Toxicity:	(Rabbit) 24-hr LD_{50} (85-75% H_3PO_4) - >1,260 — >3,160 mg/kg bw
	Acute Toxicity, Other Routes:	No data available.
	Repeated Dose Toxicity:	No data available.
	Eye & Skin Irritation/Corrosion:	Eye (Rabbit) OECD Guideline 405: Not irritating at 17% solution but severe irritation at higher concentration Skin: (Rabbit) 24-hour: Highly irritating to corrosive.
Special remarks on Toxicity to Animals:	**Developmental Toxicity/Teratogenicity:**	No data available.
	Bacterial Genetic Toxicity In-Vitro: Gene Mutation:	(S.typhimurium) Bacterial reverse mutation assay: Negative
	Non-Bacterial Genetic Toxicity In-Vitro: Chromosomal Aberration:	(Sea urchin) Embryo and sperm assays: Aberrations caused at pH 6.5.
	Toxicity to Reproduction:	(Rat) One-generation: 375 mg/kg bw did not affect offspring growth in rats.
	Carcinogenicity:	No additional data available. (See NTF List, above in this Section)
Effects on Humans:	**Other Effects:**	Inhalation: 10,000 mg/m^3 is immediately dangerous to life (IDLH). Dermal contact may irritate eyes and skin.
	Chronic Effects:	No data available.
	Other Remarks on Effects:	No data available.

Section XII Ecological Information

Special Remarks (Also in this Section XII, below, see General Ecological Information):

Environmental Fate:	When released into the soil, this material may leach into ground water. When released to water, acidity may be readily reduced by natural water hardness minerals. All components readily enter the normal biosphere.
Environmental Toxicity:	No Information found.
Toxicity of the Products of Degradation:	The products of degradation are normal components of the biosphere.
Ecological Effects:	Excessive amounts of Phosphoric Acid can affect the pH shift leading to a potential risk to aquatic organisms.

Section XIII Disposal Considerations

Always dispose of in accordance with local, state and federal regulations.
Please recycle empty container whenever possible.

Additional Packaging:	**…...Truck:** DOT specification MC 310, MC 301, MC 302, MC 303, MC304, MC 305, MC 306, MC307, MC 310, MC311, MC 312, MC330, MC 331, DOT 406, DOT 407, and DOT 412 cargo tank motor vehicles. **……Rail:** Class DOT 103, 104, 105, 109, 111, 114, 115, or 120 tank car tanks; Class 106 or 110 multi -unit tank car tanks and AAR Class 203W, 206W, and 211W tank car tanks.
Notes:	TDG Note (Canada): If product exceeds CERCLA Reportable Quantity, special RQ notation is required.

Section XIV Transportation Information

	US DOT Domestic (Land)	**UN / NA International (Water)**
Proper Shipping Name:	SmartWash®, Corrosive liquid, NOS (contains Phosphoric Acid)	SmartWash®, Corrosive liquid, NOS (contains Phosphoric Acid)
Hazard Class:	DOT Class 8 Corrosive material	8
Identification Number:	UN1760	UN1760
Packing Group (Technical Name):	III	III
Labeling & Placards:	Corrosive	Corrosive
Environmental Hazards:	None	None

Section XV Regulatory Information

Chemical Inventory Status- -

INGREDIENT:	TSCA	EC	Japan	Australia	Korea	Canada DSL	Canada NDSL	Philippines
Phosphoric Acid (7664-38-2):	Yes - 8 (d)	Yes	Yes	Yes	Yes	Yes	No	Yes
Ingredient B (Trade Secret):	Yes - 8 (d)	Yes	Yes	Yes	Yes	Yes	No	Yes
Water (7732-18-5):	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes

Federal, State, and International Regulations -

INGREDIENT:	SARA 302 - - RQ- - - -	SARA 302 - TPQ- -	- SARA 313 - - List-	- SARA 313 - - Chemical Category	CERCLA	RCRA 261.33	TSCA 8 (d)
Phosphoric Acid (7664-38-2):	No	No	No	No	5,000 lbs.	No	No
Ingredient B (Trade Secret):	No	No	No	No	No	No	No
Water (7732-18-5):	No	No	No	No	No	No	No

Section XVI Other Information

NFPA Hazard Ratings:	**Health:** 2	**Flammability:** 0	**Reactivity:** 0	**Special Hazards: COR**
	0 = Insignificant **1 = Slight** **2 = Moderate** **3 = High** **4 = Extreme**			
Product Use:	An adjuvant for food processing application.			
Additional Information:	A food grade adjuvant that enhances the reactivity of existing antimicrobials and is deemed safe and suitable for use in process water for fruit and vegetable products [USDA FSIS Directive 7120.1]. **CA Prop 65**: this product does NOT contain chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.			
Revision Information:	Added patent number and corrected other product name. Dated: May 11, 2016 Date of original release: July 1, 2010			
Disclaimer:	SmartWash Solutions, LLC, provides the information contained and offers it for information only, and as a guide to the appropriate precautionary and emergency handling of the material by a properly trained person having the necessary technical skills. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. SmartWash Solutions, LLC, MAKES NO REPRESENTATIONS OF WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE INFORMATION SET FORTH HEREIN OR THE PRODUCT WHICH THE INFORMATION REFERS. ACCORDINGLY, SmartWash Solutions, LLC, WILL NOT BE RESPONSIBLE FOR DAMAGES RESULTING FROM RELIANCE UPON THIS INFORMATION.			