

SAFETY DATA SHEET

1. PRODUCT & COMPANY IDENTIFICATION

Product Name: Nature's Shield[®] 440-BF
Product Code: 10268
Product Use: Organic Citric Acid Buffer
Product
Restrictions: None Known
Manufacturer: Pace International, LLC
Address: 5661 Branch Road, Wapato, WA 98951
Phone Number: 800-936-6750 (Monday-Friday, 7:00 a.m. – 4:00 p.m.)
Medical Emergency Phone Number: 888-271-4649 (PROPHARMA/PROSAR)
Transportation Emergency Phone Number: 800-424-9300 (CHEMTREC)

2. HAZARDS IDENTIFICATION

GHS Classification in accordance with 29 CFR 1910 (2012 OSHA Hazard Communication Standard)
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification:
Physical, CORROSIVE, Category 1
Skin irritation, Category 2
Eye irritation, Category 2A

Hazard Symbols:



Signal Word:
WARNING

Hazard Statements:
H290 May be corrosive to metals.
H315 Causes skin irritation.
H319 Causes serious eye irritation.

Other Hazards: None known.
Hazard(s) not otherwise classified (HNOC): None known.

Precautionary Statements:
Prevention Statements:
P234 Keep only in original container.
P264 Wash hands thoroughly after handling.
P280 Wear protective clothing, chemical resistant gloves, and safety glasses.
Response Statements:
P390 Absorb spillage to prevent material damage.
P302/352 IF ON SKIN: Wash with plenty of soap and water.
P321 Specific Treatment see Section 4 First Aid Measures.
P332/313 If skin irritation occurs: Get medical advice/attention.
P362/364 Take off contaminated clothing and wash it before reuse.
P305/351/338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337/313 If eye irritation persists: Get medical advice/attention.
Storage Statements:
P406 Store in corrosive resistant container with a resistant inner liner.
Disposal Statements:
P501 Dispose of contents/container in accordance with applicable regional, national and local laws and regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Ingredient</u>	<u>CAS #</u>	<u>Concentration (w/w %)</u>
Citric Acid	77-92-9	50%
Other ingredients*		balance

*Other Ingredients not identified are trade secrets and non-hazardous.

4. FIRST AID MEASURES

General Advice: Have the product container, label or Safety Data Sheet with you when calling a poison control center or physician, or going for treatment. You may also contact PROPHARMA (PROSAR) 1-888-271-4649 for emergency medical treatment information.
If on Skin: Take off contaminated clothing. Wash skin with plenty of soap and water for 15-20 minutes. If redness, burning, persistent irritation, or you feel unwell call a POISON CENTER/doctor. Wash contaminated clothing before reuse.



7. HANDLING & STORAGE

Handling:	Do not get in eyes, on skin or on clothing. Wear appropriate personal protective equipment (see Section 8). Avoid breathing vapors or mists of this product. Use only with adequate ventilation. Observe good industrial hygiene practices. Wash thoroughly after handling. Eating, drinking and smoking in work areas is prohibited. Remove contaminated clothing and protective equipment before entering eating areas.
Storage:	Keep in original container that is properly labelled. Store in a cool, dry area at room temperature, away from direct sunlight. Store in corrosive resistant container with a resistant inner liner. Keep container tightly closed and upright when not in use. Keep out of reach of children and livestock. Store in locked location.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits:	No exposure limits noted for ingredients.
Biological Limit Values:	No biological exposure limits noted for the ingredients.
Exposure Guidelines:	Chemicals listed in Section 3 that are not listed here do not have established limit values for ACGIH
Appropriate engineering controls:	Ensure adequate ventilation.
Individual protection measures, such as personal protective equipment	
Eye/face protection:	Wear safety glasses.
Skin protection	
Hand protection:	Wear nitrile, neoprene, vinyl (PVC), or rubber gloves.
Other:	Wear protective clothing (long sleeved shirt, pants, and shoes).
Respiratory protection:	Not normally required. A NIOSH-approved respirator with an acid gas / organic vapor cartridge may be used in environments without proper ventilation.
Thermal hazards:	Not applicable.
General hygiene considerations:	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and immediately after handling the product. When using do not eat, drink or smoke.

9. PHYSICAL & CHEMICAL PROPERTIES

Physical state:	Clear liquid	Upper/Lower flammability or exposure limits:	Not available
Appearance / Color:	Odorless	Vapor pressure:	16 mm Hg
Odor:	Not available	Vapor density: (air =1)	0.62
Odor threshold:	Not available	Specific Gravity: (H₂O = 1)	1.24
pH:	0.8	Solubility:	Miscible with water
Melting/Freezing point:	23°F (-5°C)	Partition coefficient (n-octanol-water):	Not available
Initial boiling point and boiling range:	219°F (103.89°C)	Auto-ignition temperature:	Not available
Flash point:	Not flammable	Decomposition temperature:	Not available
Evaporation rate:	0.33	Viscosity:	Not available
Flammability (solid, gas):	Not applicable	Explosive Properties:	Not explosive
		Oxidizing Properties:	Not oxidizing

10. STABILITY & REACTIVITY

Reactivity hazards:	May react with incompatible materials.
Possibility of Hazardous Reactions:	Hazardous polymerization does not occur.
Chemical stability:	Stable under recommended storage conditions.
Conditions to avoid:	Do not mix with other chemicals.
Incompatible materials:	Strong oxidizing agents. Reducing agents. Caustics. Metal nitrates.
Hazardous decomposition products:	May include and are not limited to: Oxides of carbon.



11. TOXICOLOGICAL INFORMATION

Routes of exposure	Eye, Skin contact, Inhalation, Ingestion.	
Information on likely routes of exposure		
Ingestion	May cause stomach distress, nausea or vomiting.	
Inhalation	No adverse effects due to inhalation are expected.	
Skin corrosion / irritation:	Causes skin irritation.	
Eye damage / irritation:	Causes serious eye irritation.	
Symptoms related to the physical, chemical and toxicological characteristics	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Direct contact with eyes may cause temporary irritation. Skin irritation. May cause redness and pain.	
Information on toxicological effects		
Acute toxicity	May cause severe skin burns and eye damage. May cause an allergic skin reaction.	
Components	Species	Test Results
Citric Acid (CAS 77-92-9)		
Acute		
<i>Dermal</i>		
LD50	Rat	> 2000 mg/kg, 24 Hours, ECHA
<i>Inhalation</i>		
LC50	Not available	
<i>Oral</i>		
LD50	Mouse	5400 mg/kg, ECHA
	Rat	5040 mg/kg, HSDB 11700 mg/kg, ECHA 6730 mg/kg, HSDB
Skin corrosion/irritation:	Causes skin irritation.	
Serious eye damage/eye Irritation:	Causes serious eye irritation.	
Respiratory sensitization:	Not a respiratory sensitizer.	
Skin sensitization:	This product is not expected to cause skin sensitization.	
Germ cell mutagenicity:	Not classified.	
Carcinogenicity:	Not classified.	
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)		
Not listed.		
Reproductive toxicity:	This product is not expected to cause reproductive or developmental effects. Non-hazardous by WHMIS/OSHA criteria.	
Teratogenicity:	Non-hazardous by WHMIS/OSHA criteria.	
Specific target organ toxicity - single exposure:	Not classified.	
Specific target organ toxicity - repeated exposure:	Not classified.	
Aspiration hazard:	Material does not present an aspiration hazard.	
Chronic effects:	Not classified.	

12. ECOLOGICAL INFORMATION

Ecotoxicity	See below	
Ecotoxicological data	Species	Test Results
Components		
Citric Acid (CAS 77-92-9)		
Acute		
Crustacea	EC50	Daphnia magna
		120 mg/L, 72 hour
Aquatic		
Fish	LC50	Bluegill (<i>Lepomis macrochirus</i>)
		1516 mg/L, 96 hour
Persistence/ degradability:	No data is available on the degradability of this product.	
Bioaccumulative potential:	Not available	
Mobility in soil:	Not available	
Mobility in general:	Not available.	
Other adverse effects:	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.	



13. DISPOSAL CONSIDERATIONS

Disposal instructions:	Recover or recycle if possible. Do not discharge into sewers, lakes, streams, or other bodies of water. Disposal should be made in accordance with applicable regional, national and local laws and regulations. Consult appropriate regulatory officials for information on disposal, keeping in mind that local regulations may be more stringent than regional or national requirements.
Hazardous waste code	D002: Waste Corrosive material [pH <=2 or =>12.5, or corrosive to steel] The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

	<u>DOT</u>
UN number:	UN3265
Proper shipping name:	Corrosive liquid, acidic, organic, n.o.s.
Technical Name:	Citric Acid
Hazard class(es):	8
Packing group:	III
Special Provisions:	A6, B10, T14, TP2, TP27
Packaging Exceptions:	None
Packaging Non Bulk	201
Packaging Bulk	243

15. REGULATORY INFORMATION

US FEDERAL REGULATIONS	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.	
Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List		Not regulated.
Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)		Not regulated.
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)		Not regulated.
CERCLA Hazardous Substance List (40 CFR 302.4)		Not listed.
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)		Not listed.
Superfund Amendments and Reauthorization Act of 1986 (SARA)	Hazard Categories	Immediate Hazard - Yes Delayed Hazard - No Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No
SARA 302 Extremely hazardous substance		No
SARA 311/312 Hazardous chemical		No
SARA 313 (TRI reporting)		Not regulated.
US STATE REGULATIONS	This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm. See below	
US - California Hazardous Substances (Director's):	Citric acid (CAS 77-92-9)	No
US - Illinois Chemical Safety Act:	Citric acid (CAS 77-92-9)	No
US - Louisiana Spill Reporting: Listed substance	Citric acid (CAS 77-92-9)	No



US - Minnesota Haz Subs: Listed substance		
	Citric acid (CAS 77-92-9)	No
US - New Jersey RTK - Substances: Listed substance		
	Citric acid (CAS 77-92-9)	No
US - Texas Effects Screening Levels: Listed substance		
	Citric acid (CAS 77-92-9)	Listed
US. Massachusetts RTK - Substance List		
	Citric acid (CAS 77-92-9)	No
US. Pennsylvania RTK - Hazardous Substances		
	Citric acid (CAS 77-92-9)	No
US. Rhode Island RTK		
	Citric acid (CAS 77-92-9)	No

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. OTHER INFORMATION

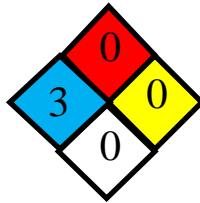
HMIS Ratings:

Health – 3

Flammability – 0

Reactivity – 0

NFPA Ratings:



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This Safety Data Sheet (SDS) may provide more information than the product label but does not replace or modify the product labeling (attached to and accompanying the product container). The product SDS and the product label both provide consistent and important health, safety, and environmental information as required by the Occupational Health and Safety Act (29 CFR 1910.1200, "Hazcom"). This requirement covers employers, employees, emergency responders, users and others handling the product. All necessary hazard classification and appropriate precautionary, use, storage, and disposal information is set forth on the labeling and the SDS.

SDS preparation date: June 16, 2017 **Replaces SDS dated:** April 10, 2017
Changes since last revision: Section 2,4,5,8,11,12,13 **Version:** 5

