

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

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| 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

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| 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

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|---|------------------|---|---------------------|
| 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

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| 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

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| 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 Specified 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

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|------------------------------------|---|--------------------------------|
| 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 (Lepomis macrochirus) |
| | | 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

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| 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

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|------------------------------|---|
| | <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

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| 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

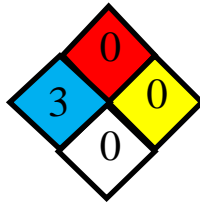
HMIS Ratings:

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

