# SAFETY DATA SHEET



## 1. IDENTIFICATION

**Product identifier**
**Product Name** TNT 811 TOC

**Other means of identification**
**Product Code(s)** TNT811-1M

**Safety data sheet number** M03216

**Recommended use of the chemical and restrictions on use**
**Recommended Use** Laboratory Use. Analytical reagent.
**Uses advised against** Consumer use.
**Restrictions on use** None.

**Details of the supplier of the safety data sheet**

**Manufacturer Address**
Hach Company P.O.Box 389 Loveland, CO 80539 USA +1(970) 669-3050

**Emergency telephone number**
+1(303) 623-5716 - 24 Hour Service

## 2. HAZARDS IDENTIFICATION

**Classification**

**Regulatory Status**
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

| | |
|---|---|
| Skin corrosion/irritation | Category 2 |
| Serious eye damage/eye irritation | Category 1 |
| Respiratory sensitization | Category 1 |
| Skin sensitization | Category 1 |
| Reproductive toxicity | Category 1B |

**Hazards not otherwise classified (HNOC)**
Not applicable

**Label elements**

**Signal word**
Danger

**Hazard statements**
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H360 - May damage fertility or the unborn child

**Precautionary statements**
P280 - Wear protective gloves, protective clothing, eye protection, and face protection
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P362 - Take off contaminated clothing and wash before reuse
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/physician
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P285 - In case of inadequate ventilation wear respiratory protection
P304 + P341 - IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing
P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
P501 - Dispose of contents/ container to an approved waste disposal plant
P272 - Contaminated work clothing should not be allowed out of the workplace
P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention
P363 - Wash contaminated clothing before reuse
P201 - Obtain special instructions before use
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P405 - Store locked up

**Other Hazards Known**
None

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Substance**
Not applicable

**Mixture**

**Chemical Family** No information available.
**Chemical nature** No information available.

**Percent ranges are used where confidential product information is applicable.**

| Chemical name | CAS No | Percent Range | HMRIC # |
|---|---|---|---|
| **Phosphoric acid** | 7664-38-2 | 1 - 5% | - |
| **Sodium persulfate** | 7775-27-1 | 1 - 5% | - |
| **Periodic acid (H5IO6)** | 10450-60-9 | 1 - 5% | - |
| **Boric acid (H3BO3)** | 10043-35-3 | 1 - 5% | - |

## 4. FIRST AID MEASURES

**Description of first aid measures**

| | |
|---|---|
| **General advice** | Immediate medical attention is required. Show this safety data sheet to the doctor in attendance. |
| **Inhalation** | Remove to fresh air. May cause allergic respiratory reaction. If breathing has stopped, give artificial respiration. Get medical attention immediately. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Get immediate medical advice/attention. |
| **Eye contact** | Get immediate medical advice/attention. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. |
| **Skin contact** | Wash off immediately with soap and plenty of water for at least 15 minutes. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician. |
| **Ingestion** | Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. May produce an allergic reaction. Get immediate medical advice/attention. |
| **Self-protection of the first aider** | Avoid contact with skin, eyes or clothing. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. |

**Most important symptoms and effects, both acute and delayed**

| | |
|---|---|
| **Symptoms** | Burning sensation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Coughing and/ or wheezing. Itching. Rashes. Hives. |

**Indication of any immediate medical attention and special treatment needed**

| | |
|---|---|
| **Note to physicians** | May cause sensitization in susceptible persons. Treat symptomatically. |

## 5. FIRE-FIGHTING MEASURES

| | |
|---|---|
| **Suitable Extinguishing Media** | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| **Unsuitable Extinguishing Media** | Caution: Use of water spray when fighting fire may be inefficient. |
| **Specific hazards arising from the chemical** | Product is or contains a sensitizer. May cause sensitization by inhalation and skin contact. May cause sensitization by skin contact. |
| **Hazardous combustion products** | This material will not burn. |
| **Special protective equipment for fire-fighters** | Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment. |

## 6. ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **U.S. Notice** | Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals. |

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

**Other Information** Refer to protective measures listed in Sections 7 and 8.

**Environmental precautions**

**Environmental precautions** Prevent further leakage or spillage if safe to do so.

**Methods and material for containment and cleaning up**

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Pick up and transfer to properly labeled containers.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

**Reference to other sections** See section 8 for more information. See section 13 for more information.

## 7. HANDLING AND STORAGE

**Precautions for safe handling**

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Ensure adequate ventilation. Provide extract ventilation to points where emissions occur. In case of insufficient ventilation, wear suitable respiratory equipment. Remove contaminated clothing and shoes. Take off contaminated clothing and wash before reuse.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children.

**Flammability class** Not applicable

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**

**Exposure Guidelines**

| Chemical name | ACGIH TLV | OSHA PEL | NIOSH |
|---|---|---|---|
| Phosphoric acid<br>CAS#: 7664-38-2 | STEL: 3 mg/m³<br>TWA: 1 mg/m³ | TWA: 1 mg/m³<br>(vacated) TWA: 1 mg/m³<br>(vacated) STEL: 3 mg/m³ | IDLH: 1000 mg/m³<br>TWA: 1 mg/m³<br>STEL: 3 mg/m³ |
| Sodium persulfate<br>CAS#: 7775-27-1 | TWA: 0.1 mg/m³ persulfate | NDF | NDF |
| Boric acid (H3BO3)<br>CAS#: 10043-35-3 | STEL: 6 mg/m³ inhalable particulate matter<br>TWA: 2 mg/m³ inhalable particulate matter | NDF | NDF |

**Appropriate engineering controls**

**Engineering Controls** Showers
Eyewash stations
Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Respiratory protection** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**Hand Protection** Wear suitable gloves. Impervious gloves. Gloves must be inspected prior to use. The selected protective gloves have to satisfy the specifications of EU Directive 2016/425 and the standard EN 374 derived from it. Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374-1:2016.

**Eye/face protection** Tight sealing safety goggles.

**Skin and body protection** Wear suitable protective clothing. Long sleeved clothing.

**General Hygiene Considerations** Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and immediately after handling the product.

**Environmental exposure controls** Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water.

**Thermal hazards** None under normal processing.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

**Physical state** Liquid
**Appearance** aqueous solution
**Color** colorless
**Odor** Odorless
**Odor threshold** No information available

| Property | Values | Remarks • Method |
|---|---|---|
| **Molecular weight** | No information available | |
| **pH** | 3 | @ 20 °C |
| **Melting point/freezing point** | ~ -9 °C / 15.8 °F | |
| **Boiling point / boiling range** | ~ 100 °C / 212 °F | |
| **Evaporation rate** | 1.21 (water = 1) | |
| **Vapor pressure** | 22.052 mm Hg / 2.94 kPa at 25 °C / 77 °F | |
| **Relative vapor density** | 0.62 | |
| **Specific gravity (water = 1 / air = 1)** | 1.0 | |
| **Partition Coefficient (n-octanol/water)** | Not applicable | |
| **Soil Organic Carbon-Water Partition Coefficient** | Not applicable | |
| **Autoignition temperature** | No data available | |
| **Decomposition temperature** | No information available | |

**Dynamic viscosity** No data available

**Kinematic viscosity** No information available

**Solubility(ies)**

**Water solubility**

| Water solubility classification | Water solubility | Water Solubility Temperature |
|---|---|---|
| Completely soluble | > 10000 mg/L | 20 °C / 68 °F |

**Solubility in other solvents**

| Chemical Name | Solubility classification | Solubility | Solubility Temperature |
|---|---|---|---|
| None reported | No information available | No data available | No information available |

**Other information**

**Metal Corrosivity**

**Steel Corrosion Rate** No data available
**Aluminum Corrosion Rate** No data available

**Volatile Organic Compounds (VOC) Content**

| Chemical name | CAS No | Volatile organic compounds (VOC) content | CAA (Clean Air Act) |
|---|---|---|---|
| Phosphoric acid | 7664-38-2 | Not applicable | - |
| Sodium persulfate | 7775-27-1 | Not applicable | - |
| Periodic acid (H5IO6) | 10450-60-9 | No data available | - |
| Boric acid (H3BO3) | 10043-35-3 | Not applicable | - |

**Explosive properties**

**Upper explosion limit** No information available
**Lower explosion limit** No information available

**Flammable properties**

**Flash point** No data available

**Flammability Limit in Air**
**Upper flammability limit:** No data available
**Lower flammability limit:** No data available

**Oxidizing properties** No data available.

**Bulk density** Not applicable

## 10. STABILITY AND REACTIVITY

**Reactivity**
Not applicable.

**Chemical stability**
Stable under normal conditions.

**Explosion data**
**Sensitivity to Mechanical Impact** None.
**Sensitivity to Static Discharge** None.

**Possibility of hazardous reactions**
None under normal processing.

**Hazardous polymerization**
No information available.

**Conditions to avoid**
None known based on information supplied.

**Incompatible materials**
Strong acids. Strong bases. Strong oxidizing agents.

**Hazardous decomposition products**
Sulfur oxides. Iodine compounds.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**

**Product Information**

| | |
|---|---|
| **Inhalation** | May cause sensitization in susceptible persons. May cause irritation of respiratory tract. |
| **Eye contact** | Severely irritating to eyes. Causes serious eye damage. May cause burns. May cause irreversible damage to eyes. |
| **Skin contact** | Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. May cause sensitization by skin contact. Causes skin irritation. |
| **Ingestion** | Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause additional affects as listed under "Inhalation". |
| **Symptoms** | Redness. Burning. May cause blindness. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing. Coughing and/ or wheezing. Itching. Rashes. Hives. May cause redness and tearing of the eyes. |

**Acute toxicity**
Based on available data, the classification criteria are not met

**Product Acute Toxicity Data**
No data available.

**Ingredient Acute Toxicity Data**
Test data reported below.

**Oral Exposure Route**

| Chemical name | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
|---|---|---|---|---|---|
| Sodium persulfate (1 - 5%) | Rat $LD_{50}$ | 895 mg/kg | None reported | None reported | Japan National Institute of Technology and Evaluation |

| | | | | | |
|---|---|---|---|---|---|
| CAS#: 7775-27-1 | | | | | (NITE) |
| Boric acid (H3BO3)<br>(1 - 5%)<br>CAS#: 10043-35-3 | Rat<br>$LD_{50}$ | 2660 mg/kg | None reported | None reported | IUCLID (The International Uniform Chemical Information Database) |

**Unknown Acute Toxicity**
0% of the mixture consists of ingredient(s) of unknown toxicity.

**Acute Toxicity Estimations (ATE)**

**The following values are calculated based on chapter 3.1 of the GHS document**

| | |
|---|---|
| **ATEmix (oral)** | 49,215.80 mg/kg |
| **ATEmix (dermal)** | No information available |
| **ATEmix (inhalation-dust/mist)** | No information available |
| **ATEmix (inhalation-vapor)** | No information available |
| **ATEmix (inhalation-gas)** | No information available |

**Skin corrosion/irritation**
Classification based on data available for ingredients. Irritating to skin.

**Product Skin Corrosion/Irritation Data**
No data available.

**Ingredient Skin Corrosion/Irritation Data**
Test data reported below.

| Chemical name | Test method | Species | Reported dose | Exposure time | Results | Key literature references and sources for data |
|---|---|---|---|---|---|---|
| Phosphoric acid<br>(1 - 5%)<br>CAS#: 7664-38-2 | Standard Draize Test | Rabbit | 800 mg | None reported | Corrosive to skin | ECHA (The European Chemicals Agency) |
| Sodium persulfate<br>(1 - 5%)<br>CAS#: 7775-27-1 | OECD Test 404: Acute Dermal Corrosion/Irritation | Rabbit | 0.5 mg | 4 hours | Skin irritant | ECHA (The European Chemicals Agency) |
| Boric acid (H3BO3)<br>(1 - 5%)<br>CAS#: 10043-35-3 | Standard Draize Test | Rabbit | 500 mg | 24 hours | Not corrosive or irritating to skin | ECHA (The European Chemicals Agency) |

**Serious eye damage/irritation**
Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.

**Product Serious Eye Damage/Eye Irritation Data**
No data available.

**Ingredient Eye Damage/Eye Irritation Data**
Test data reported below.

| Chemical name | Test method | Species | Reported dose | Exposure time | Results | Key literature references and sources for data |
|---|---|---|---|---|---|---|
| Phosphoric acid<br>(1 - 5%)<br>CAS#: 7664-38-2 | Standard Draize Test | Rabbit | 199 mg | None reported | Corrosive to eyes | RTECS (Registry of Toxic Effects of Chemical Substances) |
| Sodium persulfate<br>(1 - 5%)<br>CAS#: 7775-27-1 | OECD Test 405: Acute Eye Corrosion/Irritation | Rabbit | 0.1 mL | 72 hours | Eye irritant | ECHA (The European Chemicals Agency) |
| Boric acid (H3BO3) | Standard Draize | Rabbit | 100 mg | 24 hours | Not corrosive or | ECHA (The European |

| | | | | | | |
|---|---|---|---|---|---|---|
| (1 - 5%)<br>CAS#: 10043-35-3 | Test | | | | irritating to eyes | Chemicals Agency) |

**Respiratory or skin sensitization**
May cause sensitization by inhalation. May cause sensitization by skin contact.

**Product Sensitization Data**
No data available.

**Ingredient Sensitization Data**
Test data reported below.

**Skin Sensitization Exposure Route**

| Chemical name | Test method | Species | Results | Key literature references and sources for data |
|---|---|---|---|---|
| Sodium persulfate<br>(1 - 5%)<br>CAS#: 7775-27-1 | OECD Test No. 406: Skin Sensitization | Guinea pig | Confirmed to be a skin sensitizer | ECHA (The European Chemicals Agency) |
| Boric acid (H3BO3)<br>(1 - 5%)<br>CAS#: 10043-35-3 | OECD Test No. 406: Skin Sensitization | Guinea pig | Not confirmed to be a skin sensitizer | ECHA (The European Chemicals Agency) |

**Respiratory Sensitization Exposure Route**

| Chemical name | Test method | Species | Results | Key literature references and sources for data |
|---|---|---|---|---|
| Sodium persulfate<br>(1 - 5%)<br>CAS#: 7775-27-1 | Based on human experience | Human | Confirmed to be a respiratory sensitizer | Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS) |

**STOT - single exposure**
Based on available data, the classification criteria are not met.

**Product Specific Target Organ Toxicity Single Exposure Data**
No data available.

**Ingredient Specific Target Organ Toxicity Single Exposure Data**
Test data reported below.

**Oral Exposure Route**

| Chemical name | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
|---|---|---|---|---|---|
| Boric acid (H3BO3)<br>(1 - 5%)<br>CAS#: 10043-35-3 | Man<br>$LD_{Lo}$ | 429 mg/kg | None reported | **Kidney, Ureter, or Bladder**<br>Changes in tubules (including acute renal failure, acute tubular necrosis) | RTECS (Registry of Toxic Effects of Chemical Substances) |

**STOT - repeated exposure**
Based on available data, the classification criteria are not met.

**Product Specific Target Organ Toxicity Repeat Dose Data**
No data available.

**Ingredient Specific Target Organ Toxicity Repeat Exposure Data**
Test data reported below.

**Oral Exposure Route**

| Chemical name | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
|---|---|---|---|---|---|
| Sodium persulfate (1 - 5%) CAS#: 7775-27-1 | Rat NOAEL | 91 mg/kg | 90 days | No toxicological effects observed | ECHA (The European Chemicals Agency) |
| Boric acid (H3BO3) (1 - 5%) CAS#: 10043-35-3 | Rat NOAEL | 100 mg/kg | 730 days | **Nutritional and Gross Metabolic** Weight gain Food intake | ECHA (The European Chemicals Agency) |

**Inhalation (Dust/Mist) Exposure Route**

| Chemical name | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
|---|---|---|---|---|---|
| Sodium persulfate (1 - 5%) CAS#: 7775-27-1 | Rat NOAEC | 10.3 mg/m$^3$ | 90 days | No toxicological effects observed | ECHA (The European Chemicals Agency) |
| Boric acid (H3BO3) (1 - 5%) CAS#: 10043-35-3 | Rat NOAEC | 470 mg/m$^3$ | 70 days | No toxicological effects observed | ECHA (The European Chemicals Agency) |

**Carcinogenicity**
Based on available data, the classification criteria are not met.

**Product Carcinogenicity Data**
No data available.

**Ingredient Carcinogenicity Data**
No data available.

| Chemical name | CAS No | ACGIH | IARC | NTP | OSHA |
|---|---|---|---|---|---|
| Phosphoric acid | 7664-38-2 | - | - | - | - |
| Sodium persulfate | 7775-27-1 | - | - | - | - |
| Periodic acid (H5IO6) | 10450-60-9 | - | - | - | - |
| Boric acid (H3BO3) | 10043-35-3 | - | Group 2A | - | X |

**Legend**

| | |
|---|---|
| **ACGIH (American Conference of Governmental Industrial Hygienists)** | Does not apply |
| **IARC (International Agency for Research on Cancer)** | Group 2A - Probably Carcinogenic to Humans |
| **NTP (National Toxicology Program)** | Does not apply |
| **OSHA (Occupational Safety and Health Administration of the US Department of Labor)** | X - Present |

**Germ cell mutagenicity**
Based on available data, the classification criteria are not met.

**Product Germ Cell Mutagenicity** *invitro* **Data**
No data available.

**Ingredient Germ Cell Mutagenicity** *invitro* **Data**
Test data reported below.

| Chemical name | Test | Cell Strain | Reported dose | Exposure time | Results | Key literature references and sources for data |
|---|---|---|---|---|---|---|
| Phosphoric acid (1 - 5%) CAS#: 7664-38-2 | Mutation in microorganisms | *Salmonella typhimurium* | 5 mg/plate | 3 days | Negative test result for mutagenicity | ECHA (The European Chemicals |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | Agency) |
| Sodium persulfate (1 - 5%) CAS#: 7775-27-1 | Mutation in microorganisms | *Salmonella typhimurium* | 10 mg/plate | 72 hours | Negative test result for mutagenicity | ECHA (The European Chemicals Agency) |
| Boric acid (H3BO3) (1 - 5%) CAS#: 10043-35-3 | Mutation in microorganisms | *Salmonella typhimurium* | 2.5 mg/plate | None reported | Negative test result for mutagenicity | ECHA (The European Chemicals Agency) |

**Product Germ Cell Mutagenicity** *invivo* **Data**
No data available.

**Ingredient Germ Cell Mutagenicity** *invivo* **Data**
Test data reported below.

**Oral Exposure Route**

| Chemical name | Test | Species | Reported dose | Exposure time | Results | Key literature references and sources for data |
|---|---|---|---|---|---|---|
| Boric acid (H3BO3) (1 - 5%) CAS#: 10043-35-3 | Micronucleus test | Mouse | 3500 mg/kg | 2 days | Negative test result for mutagenicity | ECHA (The European Chemicals Agency) |

**Reproductive toxicity**
Classification based on data available for ingredients. Contains a known or suspected reproductive toxin. The table below indicates ingredients above the cut-off threshold considered as relevant which are listed as reproductive toxins.

**Product Reproductive Toxicity Data**
No data available.

**Ingredient Reproductive Toxicity Data**
Test data reported below.

**Oral Exposure Route**

| Chemical name | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
|---|---|---|---|---|---|
| Phosphoric acid (1 - 5%) CAS#: 7664-38-2 | Rat NOAEL | >= 500 mg/kg | 6 weeks | No reproductive or developmental toxic effects observed | ECHA (The European Chemicals Agency) |
| Sodium persulfate (1 - 5%) CAS#: 7775-27-1 | Rat NOAEL | >= 250 mg/kg | Single generation | No reproductive or developmental toxic effects observed | ECHA (The European Chemicals Agency) |
| Boric acid (H3BO3) (1 - 5%) CAS#: 10043-35-3 | Rat $TD_{Lo}$ | 52 mg/kg | 26 weeks | **Paternal Effects** Spermatogenesis (including genetic material, sperm morphology, motility, and count) | RTECS (Registry of Toxic Effects of Chemical Substances) |

**Inhalation (Dust/Mist) Exposure Route**

| Chemical name | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
|---|---|---|---|---|---|
| Boric acid (H3BO3) (1 - 5%) CAS#: 10043-35-3 | Human $TC_{Lo}$ | 0.010 mg/L | 10 years | **Paternal Effects** Epididymis Sperm duct Spermatogenesis (including genetic material, sperm morphology, motility, and count) testes | RTECS (Registry of Toxic Effects of Chemical Substances) |

**Aspiration hazard**
Based on available data, the classification criteria are not met.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity** Based on available data, the classification criteria are not met.

**Unknown aquatic toxicity** 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

**Product Ecological Data**

**Aquatic Acute Toxicity**
No data available.

**Aquatic Chronic Toxicity**
No data available.

**Ingredient Ecological Data**

**Aquatic Acute Toxicity**
Test data reported below.

**Fish**

| Chemical name | Exposure time | Species | Endpoint type | Reported dose | Key literature references and sources for data |
|---|---|---|---|---|---|
| Sodium persulfate (1 - 5%) CAS#: 7775-27-1 | 96 hours | *Poecilia reticulata* | $LC_{50}$ | 76 mg/L | ECHA (The European Chemicals Agency) |

**Aquatic Chronic Toxicity**
No data available.

**Persistence and degradability**

**Product Biodegradability Data**
No data available.

Bioaccumulation
There is no data for this product
**Product Bioaccumulation Data**
No data available.

**Partition Coefficient (n-octanol/water)** Not applicable

**Mobility**

**Soil Organic Carbon-Water Partition Coefficient** Not applicable

**Other adverse effects**
No information available

## 13. DISPOSAL CONSIDERATIONS

**Waste treatment methods**

**Waste from residues/unused** Dispose of in accordance with local regulations. Dispose of waste in accordance with

| | |
|---|---|
| **products** | environmental legislation. |
| **Contaminated packaging** | Do not reuse empty containers. |
| **US EPA Waste Number** | No data available |
| **Special instructions for disposal** | Dispose of all mercury contaminated material at an E.P.A. hazardous waste facility. Dispose of material in an E.P.A. approved hazardous waste facility. Open cold water tap completely, slowly pour the material to the drain. Flush system with plenty of water. If permitted by regulation. |

## 14. TRANSPORT INFORMATION

| | |
|---|---|
| **DOT** | Not regulated |
| **TDG** | Not regulated |
| **IATA** | Not regulated |
| **IMDG** | Not regulated |
| **Note:** | No special precautions necessary. |

**Additional information**
There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods.
If the item is not in a reagent set or kit, the classification given above applies.
If the item is part of a reagent set or kit the classification would change to the following:
UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.
If the item is not regulated, the Chemical Kit classification does not apply.

## 15. REGULATORY INFORMATION

**National Inventories**

| | |
|---|---|
| **TSCA** | Complies |
| **DSL/NDSL** | Complies |

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**International Inventories**

| | |
|---|---|
| **EINECS/ELINCS** | Complies |
| **ENCS** | Complies |
| **IECSC** | Complies |
| **KECL - Existing substances** | Complies |
| **PICCS** | Complies |
| **TCSI** | Complies |
| **AICS** | Complies |
| **NZIoC** | Complies |

**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
**ENCS** - Japan Existing and New Chemical Substances
**IECSC** - China Inventory of Existing Chemical Substances
**KECL** - Korean Existing and Evaluated Chemical Substances
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances
**TCSI** - Taiwan Chemical Substances Inventory
**AICS** - Australian Inventory of Chemical Substances
**NZIoC** - New Zealand Inventory of Chemicals

## US Federal Regulations

**SARA 313**
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

**SARA 311/312 Hazard Categories**

| | |
|---|---|
| **Acute health hazard** | Yes |
| **Chronic Health Hazard** | Yes |
| **Fire hazard** | No |
| **Sudden release of pressure hazard** | No |
| **Reactive Hazard** | No |

**CWA (Clean Water Act)**
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

| Chemical name | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances |
|---|---|---|---|---|
| Phosphoric acid<br>7664-38-2 | 5000 lb | - | - | X |

**CERCLA**
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

| Chemical name | Hazardous Substances RQs | CERCLA/SARA RQ | Reportable Quantity (RQ) |
|---|---|---|---|
| Phosphoric acid<br>7664-38-2 | 5000 lb | - | RQ 5000 lb final RQ<br>RQ 2270 kg final RQ |

## US State Regulations

**California Proposition 65**
This product does not contain any Proposition 65 chemicals

**IMERC:** Not applicable

**U.S. State Right-to-Know Regulations**

This product may contain substances regulated by state right-to-know regulations.

| Chemical name | New Jersey | Massachusetts | Pennsylvania |
|---|---|---|---|
| Phosphoric acid<br>7664-38-2 | X | X | X |
| Sodium persulfate<br>7775-27-1 | X | - | - |
| Boric acid (H3BO3)<br>10043-35-3 | X | - | - |

**U.S. EPA Label Information**

| Chemical name | FIFRA | FDA |
|---|---|---|
| Phosphoric acid | 180.0910 | 21 CFR 182.1073 |
| Boric acid (H3BO3) | 180.0920 | - |

## 16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

**Special Comments**
None

**Additional information**

**Global Automotive Declarable Substance List (GADSL)**

| Chemical name | Global Automotive Declarable Substance List Classifications | Global Automotive Declarable Substance List Thersholds |
|---|---|---|
| Boric acid (H3BO3)<br>10043-35-3 | Declarable Substance (LR)<br>Prohibited Substance (LR) | 0 %<br>0.1 % |

**NFPA and HMIS Classifications**

| | | | | |
|---|---|---|---|---|
| **NFPA** | **Health hazards** - 3 | **Flammability** - 0 | **Instability** - 0 | **Physical and chemical properties** - |
| **HMIS** | **Health hazards** - *<br>- 2 | **Flammability** - 0 | **Physical hazards** - 0 | **Personal protection** -<br>X<br>- I |

**Key or legend to abbreviations and acronyms used in the safety data sheet**

| | |
|---|---|
| *NIOSH IDLH* | *Immediately Dangerous to Life or Health* |
| ACGIH | ACGIH (American Conference of Governmental Industrial Hygienists) |
| *NDF* | *no data* |

**Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

| | | | |
|---|---|---|---|
| TWA | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| MAC | Maximum Allowable Concentration | Ceiling | Ceiling Limit Value |
| X | Listed | Vacated | These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations. |
| SKN* | Skin designation | SKN+ | Skin sensitization |
| RSP+ | Respiratory sensitization | ** | Hazard Designation |
| C | Carcinogen | R | Reproductive toxicant |
| M | mutagen | | |

| | |
|---|---|
| **Prepared By** | Hach Product Compliance Department |
| **Issue Date** | 25-07-2019 |
| **Revision Date** | 10-Aug-2021 |
| **Revision Note** | None |

**Disclaimer**

**USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.**

**THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE**

**OBTAINED FROM THE USE THEREOF.**



**End of Safety Data Sheet**