# Material Safety Data Sheet
# pH -

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME: pH -**
**PRODUCT CODES:**

**MANUFACTURER: NSA LLC,**
**5585 E. Shelby Dr.**
**Memphis, TN 38141**

**EMERGENCY PHONE: CHEMTREC 1-800-262-8200**
**OTHER CALLS: 407-358-8596**

**CHEMICAL NAME: pH -** **CHEMICAL FAMILY: Acid**
**CHEMICAL FORMULA:**

**GENERAL/GENERIC ID ph adjuster** **UPDATED BY: _____**

**Section 1 NOTES:**

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

**INGREDIENTS: The percentage of mixture information for pH Down is withheld as a trade secret. The basic ingredients of pH Down are phosphoric acid and citric acid.**

| CAS NO. | % WT | % VOL | SARA 313 REPORTABLE |
|---|---|---|---|
| 7664-38-2 | 12 | 12 | Phosphoric Acid |
| | ppm | mg/m3 | |

**OSHA PEL-TWA:**
**OSHA PEL STEL :**
**OSHA PEL CEILING:**
**ACGIH TLV-TWA:**
**ACGIH TLV STEL:**
**ACGIH TLV CEILING:**

**Section 2 NOTES:** **Toxicological Data on Ingredients:** Phosphoric Acid: ORAL (LD50): Acute: 1530 mg/kg [Rat]. DERMAL (LD50): Acute: 2740
mg/kg [Rabbit]. DUST (LC50): Acute: >850 mg/m 1 hours [Rat].

## SECTION 3: HAZARDS IDENTIFICATION

**Potential Acute Health Effects:**
Very hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, . Hazardous in case of skin contact (corrosive, permeator), of eye contact (corrosive). Slightly hazardous in case of inhalation (lung sensitizer). Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Severe over-exposure can result in death. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.
**Potential Chronic Health Effects:**
CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to blood, liver, skin, eyes, bone marrow. Repeated
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or prolonged exposure to the substance can produce target organs damage. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.
**HAZARDS IDENTIFICATION**
**PHYSICAL HAZARDS:** Mixing with water, acid or incompatible materials may cause splattering and release of heat. Do not store in aluminum container or use aluminum fittings or transfer lines, as flammable hydrogen gas may be generated.
**ECOLOGICAL HAZARDS:** This material has exhibited moderate toxicity to aquatic organisms.
**PRECAUTIONARY STATEMENTS:** Do not get in eyes, on skin, or on clothing. Do not breathe vapor or mist. Keep container tightly closed. Wash thoroughly after handling. Use only with adequate ventilation

**OSHA: No** **NTP: No**
**IARC: No** **OTHER:**

**Section 3 NOTES:**

**SECTION 4: FIRST AID MEASURES**

**EYES: Flush with water for 15 minutes. Get medical attention if irritation persists.**
**SKIN: Flush with water for 15 minutes. Get medical attention if irritation persists.**
**INGESTION: Do not induce vomiting, contact a physician or poison control center immediately. Offer small amounts of water or milk.**
**INHALATION:**
**NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:**
**SIGNS AND SYMPTOMS OF EXPOSURE: Eye irritation. Dry and/or red itchy skin.**

**Section 4 NOTES:** **FIRST AID MEASURES**

**Eye Contact:**
Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15
minutes. Cold water may be used. Get medical attention immediately.
**Skin Contact:**
In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing
and shoes. Cover the irritated skin with an emollient. Cold water may be used.Wash clothing before reuse. Thoroughly clean
shoes before reuse. Get medical attention immediately.
**Serious Skin Contact:**
Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical
attention.
**Inhalation:**
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical
attention immediately.
**Serious Inhalation:**
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. If 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.
**Ingestion:**
Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious
person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar,
tie, belt or waistband.
**Serious Ingestion:** Not available

**SECTION 5: FIRE-FIGHTING MEASURES**

**Flammability of the Product:** Non-flammable.
**Auto-Ignition Temperature:** Not applicable.
**Flash Points:** Not applicable.
**Flammable Limits:** Not applicable.
**Products of Combustion:** Not available.
**Fire Hazards in Presence of Various Substances:** of metals
**Explosion Hazards in Presence of Various Substances:** Non-explosive in presence of open flames and sparks, of shocks.
**Fire Fighting Media and Instructions:** Not applicable.
**Special Remarks on Fire Hazards:**

Reacts with metals to liberate flammable hydrogen gas. Formation of flammable gases with aldehydes, cyanides, mercaptins,
and sulfides.
**Special Remarks on Explosion Hazards:** Mixtures with nitromethane are explosive. (Phosphoric Acid)

**SECTION 6: ACCIDENTAL RELEASE MEASURES**

**ACCIDENTAL RELEASE MEASURES:**

**Occupational Release:**
Wear appropriate personal protective equipment recommended in Section 8 of the SDS. Completely contain spilled
material with dikes, sandbags, etc. Keep out of water supplies and sewers. Liquid material may be removed with a vacuum truck. Flush spill area with water, if appropriate. This material is alkaline and may raise the pH of surface waters
with low buffering capacity. Releases should be reported, if required, to appropriate agencies.

**Section 6 NOTES:**

**SECTION 7: HANDLING AND STORAGE**

**Precautions:**
Do not ingest. Do not breathe gas/fumes/ vapor/spray. Never add water to this product. 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. Keep away from incompatibles such as oxidizing agents, combustible materials, metals, alkalis.
May corrode metallic surfaces. Store in a metallic or coated fiberboard drum using a strong polyethylene inner package.
**Storage:** Keep container tightly closed. Keep container in a cool, well-ventilated area.

**Section 7 NOTES:**

**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. Ensure that eyewash stations and safety showers are proximal to the work-station location.
**Personal Protection:**
Face shield. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves. Boots.
**Personal Protection in Case of a Large Spill:**
Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid
inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this
product.
**Exposure Limits:**
Phosphoric Acid TWA: 1 STEL: 3 (mg/m3) from ACGIH (TLV) [United States] TWA: 1 STEL: 3 (mg/m3) from OSHA (PEL)
[United States] TWA: 1 STEL: 3 (mg/m3) from NIOSH TWA: 1 STEL: 3 (mg/m3) [Mexico]Consult local authorities for
acceptable exposure limits.**Section 8 NOTES:**

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

**APPEARANCE: blue**
**ODOR:**
**PHYSICAL STATE: liquid**
**pH OF CONCENTRATE: 15.53**

**BOILING POINT:**
**MELTING POINT: 50 F: 15 C:**
**FREEZING POINT: 32 F: 0 C:**

**VAPOR PRESSURE (mmHg):**
**VAPOR DENSITY (AIR = 1):**

**SPECIFIC GRAVITY (H2O = 1):**
**EVAPORATION RATE:**
**BASIS (=1):**

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (con't)**

**SOLUBILITY IN WATER: Complete**
**PERCENT SOLIDS BY WEIGHT: N/A**
**PERCENT VOLATILE: N?A**
**BY WT/ BY VOL @ F: C:**
**VOLATILE ORGANIC COMPOUNDS (VOC):**
**WITH WATER: 9.6 LBS/GAL**
**WITHOUT WATER: LBS/GAL**

**MOLECULAR WEIGHT:**
**VISCOSITY:**
**@ F: C:**

**Section 9 NOTES:**

**SECTION 10: STABILITY AND REACTIVITY**

**Stability:** The product is stable.
**Instability Temperature:** Not available.
**Conditions of Instability:** Incompatible materials
**Incompatibility with various substances:** Reactive with oxidizing agents, combustible materials, metals, alkalis.
**Corrosivity:**
Extremely corrosive in presence of copper, of stainless steel(304), of stainless steel(316). Highly corrosive in presence of
aluminum. Non-corrosive in presence of glass.
**Special Remarks on 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, organophosphates, epoxides, combustible materials, unsaturated halides,
organic peroxides. Formation of flammable gases, with aldehydes, cyanides, mercaptins, and sulfides. Formation of toxic
fumes with cyanides, fluorides, halogenated organics, sulfides, and organic peroxides. Do not mix with solutions containing
bleach or ammonia. Incompatible with nitromethane, chlorides + staiinless steel. (Phosphoric Acid)
**Special Remarks on Corrosivity:**
Minor corrosive effect on bronze. Severe corrosive effect on brass. Corrosive to ferrous metals and alloys.
**Polymerization:** Will not occur.
**Section 10 NOTES:**

## SECTION 11: TOXICOLOGICAL INFORMATION

**Routes of Entry:** Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion.
**Toxicity to Animals:**
Acute oral toxicity (LD50): 1530 mg/kg [Rat]. Acute dermal toxicity (LD50): 2740 mg/kg [Rabbit].
**Chronic Effects on Humans:** May cause damage to the following organs: blood, liver, skin, eyes, bone marrow.
**Other Toxic Effects on Humans:**
Extremely hazardous in case of inhalation (lung corrosive). Very hazardous in case of skin contact (irritant), of ingestion, .
Hazardous in case of skin contact (corrosive, permeator), of eye contact (corrosive).
**Special Remarks on Toxicity to Animals:** Not available.
**Special Remarks on Chronic Effects on Humans:** Not available.
**Special Remarks on other Toxic Effects on Humans:**
**Section 11 NOTES:** Acute Potential Health Effects: Skin: Corrosive and causes severe skin irritation and can cause severe skin burns. May affect
behavior (somnolence or excitement) if absorbed through skin. Eyes: Corrosive. Liquid or vapor causes severe eye irritation
and can cause severe eye burns leading to permanent corneal damage or chemical conjunctivitis. Ingestion: May be harmful
if swallowed. Causes irritation and burns of the gastrointestinal (digestive) tract. Causes severe pain, nausea, vomiting,
diarrhea hematemesis, gastrointestinal hemmorrhaging, and shock. May cause corrosion and permanent tissue destruction
of the esophagus and digestive tract. May affect behavior and urinary system, liver (hepatocellular damage, hepatic enzymes
increased), blood (blood dyscrasia). May also

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity:** Not available.
**BOD5 and COD:** Not available.
**Products of Biodegradation:**
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
**Toxicity of the Products of Biodegradation:** The products of degradation are less toxic than the product itself.
**Special Remarks on the Products of Biodegradation:** Not
available.

## SECTION 13: DISPOSAL CONSIDERATIONS:

**WASTE DISPOSAL METHOD: If product can not be disposed of according to use directions on label. Dispose of in accordance with local, state, and federal regulations.**
**RCRA HAZARD CLASS:**

**Section 13 NOTES:**

**SECTION 14: TRANSPORT INFORMATION**

**U.S.DOT 49 CFR 172.101:**
**PROPER SHIPPING NAME:** pH -, solution

**DOT Classification:** Class 8: Corrosive material
**Identification:** : Phosphoric acid (Phosphoric Acid) UNNA: 1805 PG: III
**Special Provisions for Transport:** Not available.**SECTION 15: REGULATORY INFORMATION**

**Federal and State Regulations:**
Connecticut hazardous material survey.: Phosphoric Acid Illinois toxic substances disclosure to employee act: Phosphoric
acid Illinois chemical safety act: Phosphoric acid New York release reporting list: Phosphoric acid Rhode Island RTK
hazardous substances: Phosphoric acid Pennsylvania RTK: Phosphoric acid Minnesota: Phosphoric acid Massachusetts
RTK: Phosphoric acid Massachusetts spill list: Phosphoric acid New Jersey: Phosphoric acid New Jersey spill list: Phosphoric
acid Louisiana spill reporting: Phosphoric acid California Director's list of hazardous substances: Phosphoric acid TSCA 8(b)
inventory: Phosphoric Acid; Water SARA 313 toxic chemical notification and release reporting: Phosphoric acid CERCLA:
Hazardous substances.: Phosphoric acid: 5000 lbs. (2268 kg)
**Other Regulations:** OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).
**Other Classifications:**
**WHMIS (Canada):** CLASS E: Corrosive liquid.
**DSCL (EEC):**
R34- Causes burns. S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S45-
In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
**HMIS (U.S.A.):**
**Health Hazard:** 3
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**Fire Hazard:** 0
**Reactivity:** 0
**Personal Protection:**
**National Fire Protection Association (U.S.A.):**
**Health:** 3
**Flammability:** 0
**Reactivity:** 0

**SECTION 16: OTHER INFORMATION:**