SAFETY DATA SHEET

A.P., NO. 181
Product ID: FP018101
Revised: 03-15-2023
Replaces: 06-25-2014

1. IDENTIFICATION

Product Identifier Used on the Label:	A.P., NO. 181
Other Identifiers:	L0000039A
Product ID:	MIXTURE
Recommended Use:	No data available.
Restrictions on Use:	No data available.

Hydrite Chemical Co.
17385 Golf Parkway
Brookfield, WI 53045
(262) 792-1450

EMERGENCY RESPONSE NUMBERS:
24 Hour Emergency #: (414) 277-1311
CHEMTREC Emergency #: (800) 424-9300

2. HAZARD(S) IDENTIFICATION

GHS Classification(s):
Substance or mixture corrosive to metals Category 1
Skin Corrosion/Irritation Category 1B
Serious Eye Damage/Eye Irritation Category 1
Acute Toxicity - Inhalation Vapour Category 4

GHS Label Elements:

GHS Hazard Symbols:

Signal Word: Danger

Hazard Statements:
May be corrosive to metals.
Causes severe skin burns and eye damage.
Harmful if inhaled.

Precautionary Statements:

Prevention:
Keep only in original container.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.

Response:
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER or doctor/physician.
Specific treatment (see on this label).

Wash contaminated clothing before reuse.
Absorb spillage to prevent material damage.

Storage: Store in a secure manner.
Store in corrosive resistant container with a resistant inner liner.

Disposal: Dispose of in accordance with local, regional and international regulations.

Hazards not otherwise classified: This product contains nitric acid. Concentrated nitric acid is a strong oxidizer and may cause fire or explosions. May react violently with water.

Percentage of Components with Unknown Acute Toxicity:

Oral: 12.4 %
Dermal: 12.4 %

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances/Mixtures:

Chemical or Common Name/Synonyms	CAS Number	% by Wt.
Phosphoric Acid	7664-38-2	< 25 %
Nitric Acid	7697-37-2	< 15 %

Note: Any chemical identity and/or exact percentage not expressly stated is being withheld as a trade secret or is due to batch variation.

4. FIRST-AID MEASURES

Description of Necessary Measures:

Eye Contact: If in eyes: Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Tilt head to avoid contaminating unaffected eye. Get immediate medical attention. Remove contact lens if easy to do. Remove any contact lens at once. Extensive irrigation is required.

Skin Contact: If on skin: Immediately flush skin with plenty of water for at least 15 minutes but preferably 30 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Do not reuse clothing and shoes until cleaned. Do not apply oils or ointments unless ordered by the physician. Continue to rinse for at least 10 minutes.

Inhalation: If inhaled: Remove to fresh air. If breathing is difficult, administer oxygen. If not breathing, give artificial respiration. GET MEDICAL ATTENTION IMMEDIATELY. DO NOT use mouth-to-mouth method if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Observe for possible delayed reaction.

Ingestion: If swallowed: If fully conscious, drink a quart of water. DO NOT induce vomiting. CALL A PHYSICIAN IMMEDIATELY. If unconscious or in convulsions, take immediately to a hospital or a physician. NEVER induce vomiting or give anything by mouth to an unconscious victim. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. If vomiting occurs naturally, keep airway clear. Do not use chemical antidotes or neutralizers.

Most Important Symptoms/Effects, Acute and Delayed:

Eye Contact: CORROSIVE-Causes severe irritation and burns. May cause: ulcerations. conjunctivitis. permanent eye damage. blindness. redness. eye damage. The eye is especially sensitive to the corrosive effects and can be destroyed.

Skin Contact: CORROSIVE-Causes severe irritation and burns. dermatitis (inflammation of the skin). ulceration. Concentrated nitric acid chars the tissue with a characteristic yellow colouration. Severe and fatal skin burns can occur with necrosis and scarring. Contact may cause: redness. inflammation.

Skin Absorption: No data available.

Inhalation: CORROSIVE-Causes severe irritation and burns. May irritate: respiratory tract. mucous membranes. throat. nose. Chronic exposure may cause: dental erosions. Nitric acid mists of 2 to 5 ppm in 8 hours may cause symptoms of lung damage. Symptoms from inhalation of Nitric Acid vapor and Nitrogen Oxides may be delayed; vapor concentrations may cause severe breathing difficulties for up to 30 hours. Nitrogen Oxide poisoning, pulmonary edema and bronchopneumonia may also occur at elevated concentrations.

Ingestion: CORROSIVE-Causes severe irritation and burns. esophagus. chest pain. diarrhea. seizures. hemorrhaging. permanent damage. Aspiration into the lungs may occur during ingestion or vomiting, resulting in severe pulmonary injury. May be fatal if swallowed. May cause damage to the: mouth. throat. stomach. digestive tract. May cause: pain. nausea. vomiting. perforation of the digestive tract. necrosis. death. Erosion of teeth is possible.

Indication of Immediate Medical Attention and Special Treatment Needed: If inhaled, keep patient under observation for development of latent pulmonary damages (at least 30 hours). There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Not flammable or combustible. For fires in area use appropriate media. For example: Water spray. Dry chemical. Carbon dioxide. Foam. Water (flood with water). Alcohol foam. DO NOT USE: water jet (frothing possible).

Specific Hazards Arising from the Chemical:

Fire and Explosion Hazards: OXIDIZER. May react with certain metals to form explosive/flammable hydrogen gas. May react with certain metals to form explosive/flammable Hydrogen gas. May react explosively with metallic powders, carbides, hydrogen sulfide and turpentine. Increases the flammability of combustible, organic and readily-oxidizable materials. Can ignite these and many organic materials such as wood, solvents, etc. Refer to NFPA 400 Hazardous Materials Code for further information on oxidizing liquids. After water evaporates, remaining material will burn.

Hazardous Combustion Products: Phosphorous oxides. Phosphine. Toxic vapors. Corrosive vapors. Nitrogen oxides. Carbon oxides.

Special Protective Equipment and Precautions for Fire-Fighters: Evacuate area of unprotected personnel. Wear protective clothing including NIOSH-approved self-contained breathing apparatus. Remain upwind of fire to avoid hazardous vapors and decomposition products. Use water spray to cool fire-exposed containers and disperse vapors. Product generates heat upon addition of water, with possible spattering. Run-off from fire control may cause pollution. Use flooding amounts of water spray or other suitable agent for fires adjacent to non-leaking tanks or other containers of Nitric Acid.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, Emergency Procedures: CORROSIVE MATERIAL. OXIDIZER. Eliminate all sources of ignition. Evacuate unprotected personnel from area. Maintain adequate ventilation. Follow personal protective equipment recommendations found in Section 8. Never exceed any occupational exposure limit.

Methods and Materials for Containment and Clean Up: Contain spill, place into drums for proper disposal. Soak up residue with inert absorbent material. Place in non-leaking containers for immediate disposal. Flush remaining area with water and neutralize with Soda Ash, Lime or Limestone and dispose of properly. Adequate ventilation is required if soda ash is used, because of the consequent release of carbon dioxide gas. Avoid direct

discharge to sewers and surface waters. Notify authorities if entry occurs. If soda ash, lime, or limestone is used, carbon dioxide will be emitted. Adequate ventilation required to eliminate any nitrogen oxides emitted. Flush remaining area with water to remove trace residue and dispose of properly.

7. HANDLING AND STORAGE

Precautions for Safe Handling: Avoid contact with eyes, skin, and clothing. Use with adequate ventilation. Do not swallow. Avoid breathing vapors, mists, or dust. Do not eat, drink, or smoke in work area. Wash thoroughly after handling. Empty containers retain product residue (vapor, dust, or liquid) and can be dangerous. DO NOT pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other source of ignition. They may explode and cause injury or death. Contact with water may cause violent reaction with evolution of heat. To dilute: Add product slowly to lukewarm water; not water to product. Mixing with strong bases can cause high heat of reaction and generate steam. Ensure eyewash station and safety shower are near. Keep container dry. Keep away from incompatibles.

Conditions for Safe Storage, Including any Incompatibilities: CORROSIVE MATERIAL. OXIDIZER. Store in a cool, well ventilated area away from all sources of ignition and out of direct sunlight. Store in a dry location away from heat. Keep away from incompatible materials. Keep containers tightly closed. Do not store in unlabeled or mislabeled containers. Do not freeze. May react with certain metals to form explosive/flammable hydrogen gas. Avoid storage on wood floors or near wooden walls, etc.. If freezing occurs, thaw and remix before using. Frozen material may be thawed in a warm room. Avoid localized overheating. Vent drums while heating. Mix thoroughly to assure homogeneity.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OSHA Exposure Guidelines:

Component	Limits
Phosphoric Acid	1 mg/m3 TWA
Nitric Acid	2 ppm TWA; 5 mg/m3 TWA

ACGIH Exposure Guidelines:

Component	Limits
Phosphoric Acid	1 mg/m3 TWA; 3 mg/m3 STEL
Nitric Acid	2 ppm TWA; 4 ppm STEL

Appropriate Engineering Controls: Local exhaust ventilation, process enclosures, or other engineering controls are imperative when handling or using this product to avoid overexposure. Maintain adequate ventilation. Do not use in closed or confined spaces. Avoid creating dust or mist. Keep levels below exposure limits. To determine exposure levels, monitoring should be performed regularly.

Individual Protection Measures:

Eye/Face Protection: Wear chemical safety goggles and a full face shield while handling this product. Do not wear contact lenses. Wear additional eye protection such as chemical safety goggles and/or face shield when the possibility exists for eye contact with splashing or spraying liquid, or airborne material.

Skin Protection: Prevent contact with this product. Wear gloves and protective clothing depending on condition of use. Protective gloves: Impervious. Chemical-resistant. Acid-proof.

Respiratory Protection: Respiratory protection must be worn if ventilation does not eliminate symptoms or keep levels below recommended exposure limits. If exposure limits are exceeded, wear: NIOSH-Approved full face supplied air respirator for Nitric Acid or Nitrogen Oxide gases or mists. Note: Cartridge or cannister respirators are not suitable for Nitrogen Oxide use. DO NOT USE chemical cartridge respirators with oxidizable sorbants. DO NOT exceed limits established by the respirator manufacturer. All respiratory protection programs must comply with OSHA 29 CFR 1910.134 and ANSI Z88.2 requirements and must be followed whenever workplace conditions require a respirator's use.

Other Protective Equipment: Eye-wash station. Safety shower. Rubber apron. Chemical safety shoes. Rubber boots. Protective clothing. Full-rubber acid suit. NOTE: The above protective equipment is listed for exposure to

this product at full strength. When using this product at the recommended use dilution of up to 4 oz/gal, wearing rubber gloves and safety glasses are acceptable precautionary measures.

General Hygiene Conditions: Wash with soap and water before meal times and at the end of each work shift. Good manufacturing practices require gross amounts of any chemical be removed from skin as soon as practical, especially before eating or smoking.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid.
Color: Clear. Colorless.
Odor: No odor.
Odor Threshold: N.D.
pH: < 2 (as is)
Freezing Point (deg. F): N.D.
Melting Point (deg. F): N.D.
Initial Boiling Point or Boiling Range: N.D.
Flash Point: NONE.
Flash Point Method: N.A.
Evaporation Rate (nBuAc = 1): N.D.
Flammability (solid, gas): N.D.
Lower Explosion Limit: N.A.
Upper Explosion Limit: N.A.
Vapor Pressure (mm Hg): N.D.
Vapor Density (air=1): N.D.
Specific Gravity or Relative Density: 1.1766 @ 25 Deg. C
Solubility in Water: Complete
Partition Coefficient (n-octanol/water): N.D.
Auto-ignition Temperature: No Data
Decomposition Temperature: N.D.
Viscosity: N.D.
% Volatile (wt%): ~68.68%
VOC (wt%): N.D.
VOC (lbs/gal): N.D.
Fire Point: N.D.

10. STABILITY AND REACTIVITY

Reactivity: Oxidizer. Avoid other reducing agents, combustibles and organic materials. Corrosive to most metals.

Chemical Stability: Stable under normal conditions.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur under normal conditions. May react with certain metals to form explosive/flammable hydrogen gas. Mixing with strong bases can cause high heat of reaction and generate steam. Phosphoric acid forms flammable gases with sulfides, mercaptans, cyanides and aldehydes. Phosphoric acid forms toxic fumes with cyanides, sulfides, fluorides, organic peroxides, and halogenated organics. Phosphoric acid mixtures with nitromethane are explosive. May react with certain metals to form explosive/flammable Hydrogen gas. Readily oxidizes combustible, organic or other readily oxidizable materials.

Conditions to Avoid (e.g., static discharge, shock, or vibration): Contact with water may cause violent reaction with evolution of heat. To dilute: Add product slowly to lukewarm water; not water to product. Avoid high temperatures. Unstable with heat; releases toxic gases. Avoid other ignition sources.

Incompatible Materials: Strong oxidizing agents. Alkalies. Metals. Metallic powders. Turpentine. Readily-oxidized materials. Cyanides. Sulfides. Carbides. Combustible materials. Organic materials. Alcohols. Hydrogen sulfide. Wood. Paper. Acids. Moisture. Strong reducing agents. Sulfites. Bases. Fluorine. Sulfur trioxide.

Phosphorous pentoxide. Sodium tetrahydroborate. Aldehydes. Amines. Amides. Azo-compounds. Carbamates. Esters. Caustics. Phenols. Cresols. Ketones. Organophosphates. Epoxides. Explosives. Unsaturated halides. Organic peroxides. Mercaptans. Nitromethane. Glycols. Fluorides. Halogenated organics. Sulfur. Aluminum. Copper. Mild steel. Brass. Bronze. Steel.

Hazardous Decomposition Products: Phosphorous oxides. Phosphine. Nitrogen oxides. Hydrogen gas. Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Routes of Exposure: Eyes. Skin. Inhalation. Ingestion.

Symptoms/Effects: Acute, Delayed and Chronic:

Eye Contact: CORROSIVE-Causes severe irritation and burns. May cause: ulcerations. conjunctivitis. permanent eye damage. blindness. redness. eye damage. The eye is especially sensitive to the corrosive effects and can be destroyed.

Skin Contact: CORROSIVE-Causes severe irritation and burns. dermatitis (inflammation of the skin). ulceration. Concentrated nitric acid chars the tissue with a characteristic yellow colouration. Severe and fatal skin burns can occur with necrosis and scarring. Contact may cause: redness. inflammation.

Skin Absorption: No data available.

Inhalation: CORROSIVE-Causes severe irritation and burns. May irritate: respiratory tract. mucous membranes. throat. nose. Chronic exposure may cause: dental erosions. Nitric acid mists of 2 to 5 ppm in 8 hours may cause symptoms of lung damage. Symptoms from inhalation of Nitric Acid vapor and Nitrogen Oxides may be delayed; vapor concentrations may cause severe breathing difficulties for up to 30 hours. Nitrogen Oxide poisoning, pulmonary edema and bronchopneumonia may also occur at elevated concentrations.

Ingestion: CORROSIVE-Causes severe irritation and burns. esophagus. chest pain. diarrhea. seizures. hemorrhaging. permanent damage. Aspiration into the lungs may occur during ingestion or vomiting, resulting in severe pulmonary injury. May be fatal if swallowed. May cause damage to the: mouth. throat. stomach. digestive tract. May cause: pain. nausea. vomiting. perforation of the digestive tract. necrosis. death. Erosion of teeth is possible.

Numerical Measures of Toxicity:

Component	Oral LD50	Dermal LD50	Inhalation LC50
Phosphoric Acid	Rat: 1530 mg/kg	Rabbit: 2740 mg/kg	1H Rat: > 850 mg/m3
Nitric Acid	No Data	No Data	30Min Rat: 138 ppm

Acute Toxicity Estimates (ATE):

Oral:	7840 mg/kg
Inhalation Vapor:	15.0998 mg/L

Cancer Information:
This product contains 0.1% or more of the following chemicals listed by NTP, IARC or OSHA as known or possible carcinogens:
Acid mists, strong inorganic

Medical Conditions Aggravated by Exposure to Product: Eye disorders. Skin disorders. Impaired respiratory function. Lung disorders. Respiratory system disorders.

Other: Milder exposures can cause irritation of the eyes, skin, mucous membranes and respiratory and digestive tracts. Death due to breathing failure may occur almost immediately or may be delayed several hours to several days depending on severity of exposure. Nitrogen oxide gas may be released if this material is overheated or placed in contact with oxidizing agents. Nitrogen oxides (especially nitrogen dioxide) are toxic by inhalation. Death may be from sudden circulatory collapse, glottic or esophageal edema, perforation of the stomach, gastric hemorrhage, or delayed stricture.

Phosphoric Acid has a low vapor pressure at room temperature and is not expected to present a significant

inhalation hazard under ambient conditions. Phosphoric Acid can, however, be irritating to the respiratory tract if inhaled as a mist or if the material is vaporized. The American Conference of Governmental Industrial Hygienists (ACGIH) has established a Threshold Limit Value (TLV) for Phosphoric Acid. For further information on this material, please refer to the current edition of the Documentation of The Threshold Limit Values and Biological Exposure Indices.

12. ECOLOGICAL INFORMATION

Ecotoxicological Information: No data available.

Chemical Fate Information: No specific biodegradation test data was located in a search of the available scientific literature. It was reported in the literature that while acidity of this material may be reduced readily in natural waters, the phosphate may persist indefinitely. Phosphates are plant nutrients and may contribute to the growth of phytoplankton in water.

13. DISPOSAL CONSIDERATIONS

Hazardous Waste Number: D002

Disposal Method: Dispose of in a permitted hazardous waste management facility following all local, state and federal regulations. Since emptied containers retain product residue, follow label warnings even after container is emptied. DO NOT pressurize, cut, weld, solder, drill, grind or expose empty containers to heat, flame, sparks or other sources of ignition. Disposal methods identified are for the product as sold. For proper disposal of used material, an assessment must be completed to determine the proper and permissible waste management options permitted under applicable rules, regulations and/or laws governing your location.

14. TRANSPORTATION INFORMATION

DOT (Department of Transportation):

Identification Number:	UN3264
Proper Shipping Name:	Corrosive Liquid, Acidic, Inorganic, N.O.S. (Contains Nitric Acid, Phosphoric Acid)
Hazard class:	8
Packing Group:	II
Label Required:	CORROSIVE
Reportable Quantity (RQ):	5000# (Phosphoric Acid); 1000# (Nitric Acid).

15. REGULATORY INFORMATION

TSCA Inventory Status: All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements.

SARA Title III Section 311/312 Category Hazards: Please see Section 2 of this SDS.

Regulated Components:	CAS	CERCLA	SARA	SARA	U.S.	WI	Prop
Component	**Number**	**RQ**	**EHS**	**313**	**HAP**	**HAP**	**65**
Phosphoric Acid	7664-38-2	Yes	No	No	No	Yes	No
Nitric Acid	7697-37-2	Yes	Yes	Yes	No	Yes	No

***Prop 65 - May Contain the Following Trace Components:**

This product may contain a detectable level of other chemicals subject to California's Proposition 65.

16. OTHER INFORMATION

Hazard Rating System

Health:	3*
Flammability:	0
Reactivity:	1

* = Chronic Health Hazard

NFPA Rating System
Health: 3
Flammability: 0
Reactivity: 0
Special Hazard: None

SDS Abbreviations
N.A. = Not Applicable
N.D. = Not Determined
HAP = Hazardous Air Pollutant
VOC = Volatile Organic Compound
C = Ceiling Limit
N.E./Not Estab. = Not Established

SDS Prepared by: EP

Reason for Revision: New format. Change(s) made in Section 2.

Revised: 03-15-2023
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