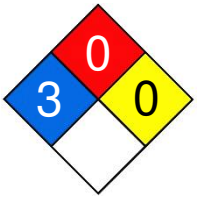
Material Safety Data Sheets



Revision 2

1. IDENTIFICATION

Product Name	**Phosphoric Acid**
Other Names	Orthophosphoric Acid; PHOSPHORIC ACID; White Phosphoric Acid
Code No	100-PA-2
Uses	To be as acidulous additive of coke type beverage and some other soft drink; foodstuff fermenting agent. To be as neutralized settling agent in the edible oil and fat industry. To be as some kinds of important additive of toothpaste and animal subsidiary feed. To be used to produce a variety of food grade phosphate; to be as food amending agent, nutrition hardening agent and leavening agent and Pharmaceutical Industry.
Chemical Family	No Data Available
Chemical Formula	H_3PO_4
Chemical Name	Phosphoric Acid
Company	Arman sina.co
Contact Information	info@armansina.com www.armansina.com

2. HAZARD IDENTIFICATION

Hazard Categories	Skin Corrosion/Irritation
Hazard Statements	Causes severe skin burns and eye damage. Causes serious eye damage. May be corrosive to metals.
Precautionary Statements	Do not breathe dust/fume/gas/mist/vapours/spray. Wear protective gloves/protective clothing/eye protection/face protection. Keep only in original container. Wash hands thoroughly after handling IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Specific treatment (see First Aid Measures on Safety Data Sheet). Absorb spillage to prevent material damage. Store locked up. Store in corrosive resistant container with a resistant inner liner.
Symbol	

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Phosphoric Acid	H_3PO_4	7664-38-2	85%
Water	H_2O	7732-18-5	BALANCE %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	Rinse mouth with water. Give water to drink provided person is conscious. Do NOT induce vomiting. Seek medical attention immediately.
Eye	Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Seek immediate medical attention.
Skin	Remove contaminated clothing. Wash affected area with plenty of flowing clean water for at least 15 minutes. Seek immediate medical attention. Wash clothing before reuse. If burned, treat as burn by acid.
Inhaled	Remove victim from exposure to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek immediate medical advice.
Advice to Doctor	Treat symptomatically based on judgement of doctor and individual reactions of patient. NOTE: Persons who may have been exposed to contaminated smoke should be immediately examined by a physician and checked for symptoms of poisoning. The symptoms should not be mistaken for heat exhaustion or smoke inhalation.
Medical Conditions Aggravated by Exposure	No information available on medical conditions aggravated by exposure to this product. SIGNS AND SYMPTOMS OF EXPOSURE: To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. May cause cyanosis (blue-grey coloring of skin and lips caused by lack of oxygen). Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. TARGET ORGAN INFORMATION: Bone marrow. Blood. Liver. ROUTE OF EXPOSURE: Multiple Routes: May be harmful by inhalation, ingestion, or skin absorption.

5. FIRE FIGHTING MEASURES

Flammability Conditions	Product is a non-flammable liquid.
Extinguishing Media	In case of fire, use Carbon dioxide, dry chemical powder, or appropriate foam.
Hazardous Products of Combustion	Non-combustible liquid. Incompatible with strong oxizing agents, strong reducing agents, strong alkali, ative powdered metals, Fluorine, sulfur trioxide, phosphorus pentoxide, metals, and sources of ignition. This product will release hydrogen on contact with metals, which may cause explosion in the air. Reacts with water to generate heat and form phosphoric acid. The reaction is not violent. Emits toxic fumes under fire conditions. It will produce the virulent gas of oxidation phosphorus at a high temperature. It is corrosive. Hazardous decomposition products may include Phosphine, oxides of phosphorus, and hydrogen gas.
Personal Protective Equipment	Fire fighters should wear a positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots and gloves) or chemical splash suit. Clear fire area of all non-emergency personnel. Stay upwind. Keep out of low areas. Eliminate ignition sources. Move fire exposed containers from fire area if it can be done without risk. Do NOT allow fire fighting water to reach waterways, drains or sewers. Store fire fighting water for treatment.
Flash Point	No Data Available
Lower Explosion Limit	No Data Available
Upper Explosion Limit	No Data Available
Auto Ignition Temperature	No Data Available
Hazchem Code	2R

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Personnel involved in the clean up should wear full protective clothing as listed in section 8. Avoid accidents, clean up immediately. Evacuate all unnecessary personnel. Increase ventilation. Avoid walking through spilled product as it is slippery when spilt. Stop leak if safe to do so. Do NOT let product reach drains or waterways. If product does enter a waterway, advise the Environmental Protection Authority or your local Waste Management. Use clean, non-sparking tools and equipment. Shut off all possible sources if ignition.
Clean Up Procedures	Neutralize spilled product with lime or soda. Soak up using absorbent material such as sand or soil. When saturated, collect material and transfer to a to suitable, labelled, dry chemical-waste containers and dispose of promptly as hazardous waste. Ventilate area and wash spill site after material pickup is complete.

7. HANDLING AND STORAGE

Handling	Ensure an eye bath and safety shower are available and ready for use. Observe good personal hygiene practices and recommended procedures. Wash thoroughly after handling. Take precautionary measures against static discharges by bonding and grounding equipment. Avoid contact with eyes, skin and clothing. Do not inhale product vapours. Avoid prolonged or repeated exposure. Remove contaminated clothing and wash before reuse. Use only in a chemical fume hood.
Storage	Store in a cool, dry, well-ventilated area. Keep containers tightly closed when not in use. Inspect regularly for deficiencies such as damage or leaks. Protect against physical damage. Store away from incompatible materials as listed in section 10. Protect from direct sunlight, moisture, fire, and heat. Store away from alkali, H vesicant, tinder, active metal powder. This product has a UN classification of 1805 and a Dangerous Goods Class 8 (Corrosive) according to The Australian Code for the Transport of Dangerous Goods By Road and Rail.
Container	Container type/packaging must comply with all applicable local legislation. Store in original packaging as approved by manufacturer.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	The following exposure standard has been established by The Australian Safety and Compensation Council (ASCC); Phosphoric Acid CAS: 7664-38-2 TWA = 1mg/m3 STEL = 3mg/m3 NOTE: The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. These exposure standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.
Exposure Limits	No Data Available
Biological Limits	No information available on biological limit values for this product.
Engineering Measures	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.
Personal Protection Equipment	RESPIRATOR: Wear an approved full face piece respirator with suitable filter for acid gases and vapours if engineering controls are inadequate (AS1715/1716). EYES: Chemical goggles to prevent splashing in the eyes (AS1336/1337). HANDS: Rubber or neoprene impervious gloves (AS2161). CLOTHING: Chemical-resistant coveralls and safety footwear (AS3765/2210).
Work Hygienic Practices	No Data Available

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Viscous Liquid
Odour	Odourless
Colour	Transparent, Colourless
pH	1.5
Vapour Pressure	
Relative Vapour Density	No Data Available
Boiling Point	158ºC
Melting Point	<21
Freezing Point	No Data Available
Solubility	No Data Available
Specific Gravity	1.71
Flash Point	No Data Available
Auto Ignition Temp	No Data Available
Evaporation Rate	No Data Available

Bulk Density	**No Data Available**
Corrosion Rate	**No Data Available**
Decomposition Temperature	**No Data Available**
Density	**No Data Available**
Specific Heat	**No Data Available**
Molecular Weight	**No Data Available**
Net Propellant Weight	**No Data Available**
Octanol Water Coefficient	**No Data Available**
Particle Size	**No Data Available**
Partition Coefficient	**No Data Available**
Saturated Vapour Concentration	**No Data Available**
Vapour Temperature	**No Data Available**
Viscosity	**No Data Available**
Volatile Percent	**No Data Available**
VOC Volume	**No Data Available**
Additional Characteristics	**Softening Point: 42.4 Deg C (pure)**
Potential for Dust Explosion	**Product is a liquid.**
Fast or Intensely Burning Characteristics	**No Data Available**
Flame Propagation or Burning Rate of Solid Materials	**No Data Available**
Non-Flammables That Could Contribute Unusual Hazards to a Fire	**No Data Available**
Properties That May Initiate or Contribute to Fire Intensity	**No Data Available**
Reactions That Release Gases or Vapours	**Contact with reactive metals may evolve highly flammable hydrogen gas.**
Release of Invisible Flammable Vapours and Gases	**No Data Available**

10. STABILITY AND REACTIVITY

Chemical Stability	**Product is stable under normal conditions of use, storage and temperature. Corrosive Liquid. Hygroscopic: absorbs moisture or water from the air.**
Conditions to Avoid	**Avoid excessive heat, direct sunlight, moist air or water.**
Materials to Avoid	**Incompatible with strong oxizing agents, strong reducing agents, strong alkali, ative powdered metals, Fluorine, sulfur trioxide, phosphorus pentoxide, metals, and sources of ignition.**
Hazardous Decomposition Products	**This product will release hydrogen on contact with metals, which may cause explosion in the air. Reacts with water to generate heat and form phosphoric acid. The reaction is not violent. Emits toxic fumes under fire conditions. It will produce the virulent gas of oxidation phosphorus at a high temperature. It is corrosive. Hazardous decomposition products may include Phosphine, oxides of phosphorus, and hydrogen gas.**
Hazardous Polymerisation	**Hazardous Polymerization May occur. Reacts with water to generate heat and form phosphoric acid. The reaction is not violent. Reacts with Bases.**

11. TOXICOLOGICAL INFORMATION

General Information	**Oral LD50 Rat : 1530mg/Kg Dermal LD50 Rabbit : 2740mg/Kg**
Eyelrritant	**Causes burns. Corrosive. Causes tissue destruction, permanent damage to the cornea, blindness.**
Ingestion	**Causes burns. Harmful by ingestion. Can cause nausea, diarrhea, corrosion, burns to mouth and esophagus, abdominal pain, chest pain, shortness of breath, seizures, and death.**
Inhalation	**Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical phenomenon, and pulmonary edema. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. May be harmful by inhalation. Mists may cause lung irritation, shortness of breath, fluid in lungs.**
SkinIrritant	**Causes burns. Causes irritation, burns.**
Carcinogen Category	**No Data Available**

12. ECOLOGICAL INFORMATION

Ecotoxicity	**No ecological information available for this product.**
Persistence/Degradability	**No information available on persistence/degradability for this product.**
Mobility	**No information available on mobility for this product.**
Environmental Fate	**Do NOT let product reach waterways, drains and sewers.**
Bioaccumulation Potential	**No information available on bioaccumulation for this product.**
Environmental Impact	**No Data Available**

13. DISPOSAL CONSIDERATIONS

General Information	**Dispose of in accordance with all local regulations. All empty packaging should be disposed of in accordance with Local Regulations or recycled/reconditioned at an approved facility.**
Special Precautions for Land Fill	**Contact a specialist disposal company or the local waste regulator for advice.**

14. TRANSPORT INFORMATION

Land Transport

Proper Shipping Name	**PHOSPHORIC ACID SOLUTION**
Class	**8 Corrosive Substances**
Subsidiary Risk(s)	**No Data Available**
ERG	**154 Substances - Toxic and/or Corrosive (Non-Combustible)**
UN Number	**1805**
Hazchem	**2R**
Pack Group	**III**
Special Provision	**No Data Available**

Sea Transport
IMDG

Proper Shipping Name	**PHOSPHORIC ACID SOLUTION**
Class	**8 Corrosive Substances**
Subsidiary Risk(s)	**No Data Available**
UN Number	**1805**
Hazchem	**2R**
Pack Group	**III**
Special Provision	**No Data Available**
EMS	**FA,SB**
Marine Pollutant	**No**

Air Transport
IATA

Proper Shipping Name	**PHOSPHORIC ACID, SOLUTION**
Class	**8 Corrosive Substances**
Subsidiary Risk(s)	**No Data Available**
UN Number	**1805**
Hazchem	**2R**
Pack Group	**III**
Special Provision	**No Data Available**

15. OTHER INFORMATION

Revision	**2**
Key/Legend	**< Less Than** **> Greater Than** **atm Atmosphere** **CAS Chemical Abstracts Service (Registry Number)** **cm Square Centimetres** **CO2 Carbon Dioxide** **COD Chemical Oxygen Demand** **Degrees Celcius** **Degrees Farenheit** **g Grams** **g/cm Grams per Cubic Centimetre** **g/l Grams per Litre** **HSNO Hazardous Substance and New Organism** **IDLH Immediately Dangerous to Life and Health** **immiscible Liquids are insoluable in each other.** **inHg Inch of Mercury** **inH2O Inch of Water** **K Kelvin** **kg Kilogram** **kg/m Kilograms per Cubic Metre** **lb Pound** **LC50 LC stands for lethal concentration. LC50 is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.** **LD50 LD stands for Lethal Dose. LD50 is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.** **ltr or L Litre** **m Cubic Metre** **mbar Millibar** **mg Milligram** **mg/24H Milligrams per 24 Hours** **mg/kg Milligrams per Kilogram** **mg/m Milligrams per Cubic Metre** **Misc or Miscible Liquids form one homogeneous liquid phase regardless of the amount of either component present.** **mm Millimetre** **mmH2O Millimetres of Water** **mPa.s Millipascals per Second** **N/A Not Applicable** **NIOSH National Institute for Occupational Safety and Health** **NOHSC National Occupational Heath and Safety Commission** **OECD Organisation for Economic Co-operation and Development** **Oz Ounce** **PEL Permissible Exposure Limit** **Pa Pascal** **ppb Parts per Billion** **ppm Parts per Million** **ppm/2h Parts per Million per 2 Hours** **ppm/6h Parts per Million per 6 Hours** **psi Pounds per Square Inch** **R Rankine** **RCP Reciprocal Calculation Procedure** **STEL Short Term Exposure Limit** **TLV Threshold Limit Value** **tne Tonne** **TWA Time Weighted Average** **ug/24H Micrograms per 24 Hours** **UN United Nations** **wt Weight**