



제1인산소다
MONOBASIC SODIUM PHOSPHATE

MSDS
(Material Safety Data
Sheet)

1. Chemical Product and Company Identification

1.1 Product Name : Monobasic Sodium Phosphate

1.2 Recommended Use of Products and Restriction in Use

- Recommended Use : antiscalses(industrial boiler), dyeing(dye dispersing agent)
- Restriction in Use : irritant

1.3 Manufacturer Information/ Supplier/ Distributor Information

- Supplier Name : IL DONG INDUSTRY CO.,LTD
694-25, Geosan-ri, Sinpyeong-myeon, Dangjin-gun, Chungcheongnam-do, Korea
- Department/Person in Charge : Quality Control/ An jin sook
- Phone : 82-41-362-3999

2. Hazards Identification

2.1 Classification of Hazards

Skin corrosive or irritating material category 2

2.2. Warning Marks

Pictorial Symbol



Signal Word: Warning

Hazards Sentence

- Irritate the skin
- Cause severe eye irritation

Precaution Sentence

- Wear protective glove, protective clothing and protective goggle.
- Wash hands thoroughly after handling.

○ **Measures**

- If it contacts the skin, wash with soap and plenty of water. Get medical attention if irritation develops and becomes serious.
- If it contacts the eye, flush eyes with plenty of water for at least 15 minutes. Remove any contact lenses if any. Get medical attention if irritation continues.

○ **Storage**

- Keep the container tightly sealed. Keep it in a cool and dry area.

○ **Disposal**

- Dispose the contents and container in accordance with related laws and regulations if they are specified.

3. Composition and Information on Ingredients

Name	CommonName (Synonym)	CAS Number	Contents(%)
MONOBASIC SODIUM PHOSPHATE	Monobasic Sodium Phosphate (2HYDROUS)	13472-35-0	97% up

4. Emergency Measures

4.1 Eye Contact

- Lift the upper and lower eyelids and carefully flush eyes with plenty of water or saline solution until all chemical substances are completely removed.(15 minutes ~ 20 minutes)
- Immediately get medical attention.

4.2 Skin Contact

- Take off the polluted clothing and shoes.
- Wash out the affected areas with soap or mild detergent and plenty of water until all chemical substances are completely removed.(15 minutes ~ 20 minutes)
- Immediately get medical attention.

4.3 Inhalation

- Move from the exposed area to the area with fresh air.
- If not breathing, give artificial respiration.
- Make the patient feel warm and comfortable.
- Perform supporting treatment to the symptom.
- Immediately take medical actions.

4.4 Ingestion

- If vomited, lower the head than the hip for breathing.
- If ingesting much, immediately get medical attention.

4.5 Most Critical Symptoms/Effects in Acute and Delayed Cases

- Inhalation :
 - A Short Exposure : Irritating
 - A Long Exposure : Not available
- Skin Contact :
 - A Short Exposure : Irritating
 - A Long Exposure : Same as effects as reported in case of a short exposure
- Eye Contact :
 - A Short Exposure : a minor irritant
 - A Long Exposure : Not available.
- Ingestion:
 - A Short Exposure : nausea, vomiting, diarrhea, stomachache.
 - A Long Exposure : no information on severe side effects.

4.6 First Aid and Medical Cautions

- Antidote : calcium gluconate, intravenous infusion.
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5. Measures in case of Exposure / Fire

5.1 Proper (and improper) Extinguisher

- Particulate powder foam extinguisher, carbon dioxide, water, general foam.

5.2 Specific Hazard from Chemical Material

- A minor risk of fire.

5.3 Personal Protection in case of Fire Extinguishing and Precautions

- Move the container from the area of fire if it is not dangerous.
 - Spray high pressure stream of water to the exposed materials so that it will not scatter.
 - Build the bank for further treatment.
 - Use the extinguisher adapted to a fire nearby.
 - Avoid inhalation of the material itself or a product of combustion.
 - Face the wind and avoid the low area.
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6. Accidental Release Measure

6.1 Actions Required to Protect the Body

- Do not touch the exposed materials.
- Prohibit the access of unnecessary person.

6.2 Actions Required to Protect the Environment

- Place it far away from the tap water and sewer.

6.3 Purification and Removal Methods

- Keep it in dry and clean container for future disposal or recycling.

7. Handling and Storage

7.1 Safe Handling

- Wear mask before handling.
- Thoroughly clean out after handling.
- Avoid contact with eyes, skin and clothing.
- Keep the container tightly closed.
- Avoid ingestion or inhalation.
- Use proper ventilation.

7.2 Storage

- Store and handle in accordance with the current laws and regulations. Keep away from incompatibles.
- Keep container tightly closed. Avoid contact with water or moisture.
- Keep in a cool and dry area.
- Keep in a well-ventilated area.

8. Exposure Control and Personal Protection

8.1 Engineering Controls

Ventilation : Install local exhaust ventilation.

Install explosion-proof equipment for the ventilation device if the material is risk of explosion

Check whether relevant exposure standard is proper.

8.2 Respiratory Protection

- Respiratory protection is required if the frequency of use is high or degree of exposure is severe.
- Breathing protection is classified from minimum density to maximum density. Consider the warning feature before use.
- Breathing protection for dust, mist, fume.
- Air filtration type breathing protection (high efficiency corpuscle filter)
- Motor fan attached breathing protection (filter for dust, mist or fume)
- Self contained breathing apparatus attached with high efficiency corpuscle filter
- In case of unknown density or other imminent risk to life or health.
- Air blower mask(complex, airline, mask).
- Air breather(front type)

8.3 Eye Protection : protection from dust, goggle type protection glass

8.4 Hand Protection: wear suitable chemical resistant glove.

8.5 Body Protection: wear suitable chemical resistant protective clothing.

Protective apron, rubber boots

8.6 Sanitary Cautions

- Make sure to wash your hands after handling before eating foods.
- Do not wear polluted clothing

8.7 Exposure Standards

- Occupational exposure standards have not be established for Monobasic Sodium Phosphate (ANHYDROUS)

9. Physical and Chemical Properties

- Appearance : white crystalline powder
- Odor : odorless
- Tastes : no
- PH (1%): 4.3 – 4.9
- Melting/Freezing Point : 225°C(decomposed)/ Not available
- Initial Boiling Point and RangeofBoilingPoint:Notapplicable.
- Ignition Point : Not available
- Evaporation Speed : Not available.
- Inflammability(Solid,Gas):noinflammability
- Upper/Lower Limit of Ignition or Explosion Scope: Not applicable.
- Vapor Pressure : Not applicable.
- Solubility:
 - Soluble in water, anhydrous
 - Solvent Solubility: very weak solubility: ether, chloroform, toluen
 - Insolubility: alcohol
- Vapor Density : Not applicable.
- Specific gravity : 2 (approximately)
- n-octanol/water distribution coefficient : None
- Natural ignition temperature: Not available
- Decomposition temperature : Not available.
- Viscosity : Not available.
- Molecular weight / molecular formula: 156.01/ $\text{NaH}_2\text{PO}_4 \cdot 12\text{H}_2\text{O}$

10. Stability and Reactivity

10.1 Chemical Stability

- Stable at room temperature and positive pressure

10.2 Conditions and Materials to Avoid

- Conditions to Avoid

Avoid heat, flame, spark and other source of ignition

Avoid contact with incompatible materials.

- Incompatible Materials:
 - Brass: may corrode if there is a moisture
 - Metal: may corrode if there is a solution
 - Steel :may corrode if there is a moisture

10.3 Hazardous Materials Generated at Decomposition

- Sodium oxide, phosphorous oxide

10.4 Possibility of Hazardous Materials in case of Reaction

- No hazardous polymerization reaction reported at room temperature and positive pressure.

11. Toxicological Information

11.1 Routes of Entry with High Possibility

- Acute inhalation toxicity : (respiratory) Not available.
- Acute oral toxicity : Not available.
- Skin contact : Not available.
- Eye contact : Not available.

11.2 Acute inhalation toxicity : Not available.

11.3 Subacute toxicity : Not available

11.4 Mutagenic effects : Not available

11.5 Effects on next generation(reproduction toxicity) : Not available.

11.6 Carcinogenic effects : no.

11.7 Other Special Remarks:

◎ Materials

- Acute exposure : may cause temporary irritation.

When the eyes of rabbit was exposed to the pH 7.0~7.5 0.1M solution produced with sodium chloride or sucrose at 0.46 osmotic pressure for 3 hours, it caused no trouble to the cornea.

- Chronic Exposure: Not available.

◎ Ingestion

- Acute Exposure : may cause abdominal, nausea, vomiting, diarrhea, cramping of hands and feet, pain of lips or burns. When it is orally administered to guinea pig, rat and rabbit in the dose of 250mg/kg, diarrhea occurs.

In general, phosphate is slowly and insufficiently absorbed so that it does not cause reaction of tissue with oral administration.

Sodium phosphate may severely decrease the calcium ion in the serum.

- Chronic Exposure: this material is used as food additive. No adverse effects reported.

12. Ecological Information

- ⊙ Aquatic ecological toxicity : Not available.
- ⊙ Soil Mobility : Not available.
- ⊙ BOD5 and COD : Not available.
- ⊙ Accumulation in the body of animals and plants: Not available.

13. Disposal Consideration

- ⊙ Regulation under Waste Management Act : Not available.
- ⊙ Disposal Method: disposed in accordance with the regulations of central government and local self governing bodies
- ⊙ Cautions for Disposal: Not available.

14. Transport Information

- ⊙ UN Number : Not available.
- ⊙ UN Proper Shipping Name : Not applicable.
- ⊙ Hazard Category in Transport: Not applicable.
- ⊙ Container Category: Not available.
- ⊙ Marine Pollutant : Not applicable.
- ⊙ Special safety measures that user should or need to know regarding transport and means of transport : Not available.

15. Other Regulatory Information

- ⊙ Regulation under Industrial Safety and Public Health Act : Not applicable.
- ⊙ Regulation under Chemical Material Management Related Acts of other departments including Hazardous Chemical Management Act: Not applicable.
- ⊙ Dangerous Article: Not applicable.
- ⊙ Regulation under Waste Management Act: Not applicable.
- ⊙ Other regulation under domestic or foreign laws: Not applicable.

16. Other Information

- ⊙ Source of Data : KOSHA(KoreaOccupationalSafety&HealthAgency).
- ⊙ Created: June 3, 1996
- ⊙ Number of revision and final date of revision: 2nd, March 10, 2018
- ⊙ Others : None