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|  | Material Safety Data Sheet(MSDS-GHS) | Date of establishment | June, 3, 1996. |
| | Monobasic Sodium Phosphate (Di Hydrate) | Date of revision | March, 30, 2017. |
| | | Page | 1/8 |

1. Product and Company Identification


- A. Product name : Monobasic Sodium Phosphate (Di Hydrate)
- B. Relevant identified uses of the substance or mixture and uses advised against
- ☐ Recommended Use : For increasing moisture holding capacity, water treatment, antiscals, emulsifier, dyeing assistant, stabilizer, tooth paste, medicine, pH buffer, detergent, shampoo, acidifier, for animal feed.
 - ☐ Usage Limits : No data available
- C. Details of the supplier of the safety data sheet
- ☐ Company : Youngjin co. ltd.
 - ☐ Address : 38, Ojeong-ro, Ojeong-gu, Bucheon-si, Gyeonggi, Korea
 - ☐ Department : Quality Control Department
 - ☐ Telephone : 82-32-674-4221

2. Hazards Identification

- A. Hazards Identification Classification
- Skin corrosive or irritative substance : classification 2
 - Severe eye damage or Eye irritative substance : classification 2
- B. Warning marks
- ☐ Pictorial symbol



- ☐ Signal word: Warning
- ☐ Hazardous expression
 - H315 Causes irritation to skin.
 - H319 Causes severe irritation to eyes
- ☐ Precaution expression
 - P264 Wash thoroughly after handling
 - P280 Wear protective gloves/protective clothing/ eye protection/face protection.
- ☐ Respond

| | | | |
|-----------------------------------------------------------------------------------|-----------------------------------------|-----------------------|------------------|
|  | Material Safety Data Sheet(MSDS-GHS) | Date of establishment | June, 3, 1996. |
| | Monobasic Sodium Phosphate (Di Hydrate) | Date of revision | March, 30, 2017. |
| | | Page | 2/8 |

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P302+352 If on skin, rinse skin with much water.

P337+P313 If irritative to eyes, consult medical personnel.

P332+P313 If irritative to skin, consult medical personnel.

P362+P364 Take off all contaminated clothing and wash them before reuse.

○ Storage

P403+P233 Store container in well-ventilated place and keep it securely airtight.

○ Disposal

P501 Dispose of container in conformity with relevant regulations.

Dispose of container by incineration as general industrial waste.

Put contents in polyethylene bag or similar bag and bury in managed landfills.

Recycle container as polyethylene according to Waste Control Act clause 13-2.

C. NFPA Rating (0-4 level): Health=1, Fire=1, Reactivity=0

3. Composition, Information on Ingredients

| Chemical Name | Idiomatic name | Percent (%) | CAS No. |
|--------------------------------------------|--------------------------------------------|-------------|------------|
| Monobasic Sodium Phosphate (Di Hydrate) | Monobasic Sodium Phosphate (Di Hydrate) | 100% | 13472-35-0 |

4. First Aid Measures

A. Eye Contact


- If exposed, rinse eyes immediately with running water more than 20 minutes.
- Take medical treatment from industrial medicine doctor.

B. Skin Contact

- If exposed, rinse skin immediately with running water more than 20 minutes.
- Take medical treatment from industrial medicine doctor.
- Remove and isolate contaminated clothing and shoes.
- Wash contaminated clothing thoroughly before re-use.

C. Inhalation

- Take medical treatment from industrial medicine doctor.
- Move victim to well-ventilated place.

| | | | |
|-----------------------------------------------------------------------------------|-----------------------------------------|-----------------------|------------------|
|  | Material Safety Data Sheet(MSDS-GHS) | Date of establishment | June, 3, 1996. |
| | Monobasic Sodium Phosphate (Di Hydrate) | Date of revision | March, 30, 2017. |
| | | Page | 3/8 |

- If breathing is hard, supply oxygen.
- If victim is not breathing, perform artificial respiration.

D. Ingestion

- Take medical treatment from industrial medicine doctor.
- Do not put anything to eat into unconscious victim's mouth.

E. Other medical notices.

- Let medical personnel recognize the material and take protective measure.

5. Explosion / Fire Fighting Measures

A. Appropriate (and inappropriate) Extinguishing Media

- Inappropriate : High-pressure water (inappropriate)
- Appropriate:

Great fire : Water spray/mist, normal foam.

Small fire: dry sand, desiccant, alcohol resistant foam, water spray, normal foam, CO₂.

B. Specific Hazards in Presence of Chemical Substances


- If boiled, container may explode.
- Inhalation may be hazardous.
- Heat, spark, and fire can ignite material.
- May burn partly, does not ignite easily.
- Fire can cause irritative and corrosive gas from material.

C. Precaution and Protective equipments for Fire Fighting

- Leakage may cause contamination.
- Dig a ditch to dispose fire fighting water and keep material not dispersed.
- May be transported at high temperature.
- Contact to eyes and skin may cause burn.
- Fire involving Tanks; After extinguish, cool down container with water spray for considerable time
- Fire involving Tanks; Step back immediately if pressure relief device makes loud sound or tank discolors.
- Fire involving Tanks; Do not approach tank in flames.

6. Accidental Release Measures

A. Require measures and protection to protect human body

| | | | |
|-----------------------------------------------------------------------------------|-----------------------------------------|-----------------------|------------------|
|  | Material Safety Data Sheet(MSDS-GHS) | Date of establishment | June, 3, 1996. |
| | Monobasic Sodium Phosphate (Di Hydrate) | Date of revision | March, 30, 2017. |
| | | Page | 4/8 |

- Do not touch and walk on leakage.
- Remove all ignition sources.
- Prevent forming dust.
- Ventilate contaminated area.
- If not dangerous, stop any leakage.
- Take notice of material and condition to avoid.

B. Required measures to protect environment

- Prevent of inflow into waterway, drain, basement, or closed space.

C. Purification or removal method

- In case of leakage of powder, cover with plastic sheet to prevent spreading and keep it dry.
- In case of small leakage, wash out contaminated area with much water.
- In case of small leakage, use sand and inflammable material to absorb and put in container.
- Use clear shovel to put leakage into dry container and shut loose and move container away from leakage area.

7. Handling & Storage

A. Safe handling

- Give care to high temperature.
- Work in reference to Engineering Controls and Personal Protection.
- Wash thoroughly after handling.
- Pay attention to Conditions and Materials to Avoid.

B. Safe Storage

- Store in airtight container.
- Store in cool and dry place.
- Pay attention to Conditions and Materials to Avoid.


8. Exposure Controls & Personal Protection

A. Chemical Exposure Limits, Biological Exposure Limit

- Korean Regulation : No data available
- ACGIH Regulation : No data available
- Biological Exposure Limit : No data available

B. Engineering Controls

- Install local exhaust ventilation, use process isolation or other ways to comply tolerable

| | | | |
|-----------------------------------------------------------------------------------|-----------------------------------------|-----------------------|------------------|
|  | Material Safety Data Sheet(MSDS-GHS) | Date of establishment | June, 3, 1996. |
| | Monobasic Sodium Phosphate (Di Hydrate) | Date of revision | March, 30, 2017. |
| | | Page | 5/8 |

standard.

C. Personal Protective Equipment

○ Respiratory Protection

- Use respiratory protective equipment that is appropriate to exposed material's physical & chemical properties and authorized by Korean Occupational Safety and Health Act.

○ Eyes Protection : Wear dust-proof safety goggles.

Install facility to clean and wash up nearby working place for emergency.

○ Hands Protection : Wear appropriate chemical-resistant gloves.

○ Body Protection : Wear appropriate chemical-resistant apron and boots.

9. Physical & Chemical Properties

A. Appearance: White, colorless solid crystal.

B. Odor: None.

C. Odor Threshold : None

D. PH: 1% solution pH 4.3~4.9

E. Melting point/Freezing point: 60°C

F. Initial Boiling point and Boiling point range: 1330°C

G. Flash point: No data available.

H. Evaporation Rate: No data available.

I. Flammability (solid, gas): nonflammable

J. Low & Upper limit of Flammable or Explosion Range: N/A.

K. Vapor Pressure: N/A

L. Solubility: (1) Solubility in water : 46% (20°C), anhydrous type.

(2) Solubility in Solvents : Weakly soluble in ether, chloroform, toluene.

(3) Insolubility : Alcohol.

M. Vapor Density: N/A

N. Specific Gravity: 1.96

O. n-Octanol/water partition coefficient: None.


P. Auto-ignition Temp.: No data available.

Q. Decomposition Temp.: No data available.

R. Viscosity: No data available

S. Molecular Weight : 156.01

10. Stability & Reactivity

| | | | |
|-----------------------------------------------------------------------------------|-----------------------------------------|-----------------------|------------------|
|  | Material Safety Data Sheet(MSDS-GHS) | Date of establishment | June, 3, 1996. |
| | Monobasic Sodium Phosphate (Di Hydrate) | Date of revision | March, 30, 2017. |
| | | Page | 6/8 |

A. Chemical stability and Possibility of hazardous reactions

- Stable In condition of normal temperature and pressure.
- If boiled, container may explode.
- May burn partly, does not ignite easily.
- Fire may generate irritative and toxic gas from material.
- Inhalation of substance may be hazardous.

B. Conditions to Avoid : Ignition sources like heat, spark, and fire.

C. Materials to Avoid : Inflammable materials.

D. Hazardous Decomposition Products : No data available.

11. Toxicological Information

A. Information about possible exposure route : No data available.

B. Health effect

○ Acute oral toxicity:

- ORAL : No data available.
- SKIN : No data available.
- Inhalation : No data available.

○ Skin corrosivity or irritation : No data available.

○ Severe eye damage or irritation : No data available.

○ Respiratory sensitization : No data available.

○ Skin sensitization : No data available. .


○ Carcinogenesis

- Occupational Safety and Helath Act : No data available
- Ministry of Employment and Labor : No data available
- IARC : No data available
- OSHA : No data available
- ACGIH : No data available
- NTP : No data available
- EU : No data available
- CLP : No data available

○ Gamete Mutagenicity : No data available.

○ Reproductive toxicity : No data available

○ Specific target organ toxicity (single exposure) : No data available.

| | | | |
|-----------------------------------------------------------------------------------|-----------------------------------------|-----------------------|------------------|
|  | Material Safety Data Sheet(MSDS-GHS) | Date of establishment | June, 3, 1996. |
| | Monobasic Sodium Phosphate (Di Hydrate) | Date of revision | March, 30, 2017. |
| | | Page | 7/8 |

- Specific target organ toxicity (repeated exposure) : No data available.
- Aspiration Hazard : No data available

12. Ecological Information


- A. Aquatic & Eco-toxicity:
 - Fish : No data available
 - Crustacean : No data available
 - Algae : No data available
- B. Residue property and degradability
 - Residue property : No data available
 - Degradability : No data available
- C. Bioaccumulative potential
 - Bioaccumulation : No data available
 - Biodegradation : No data available
- D. Movement in soil : No data available.
- E. Other hazardous effect : No data available.

13. Disposal Considerations

- A. Disposal method
 - Incinerate.
 - Dispose by evaporation and condensation method and incinerate remnants.
 - Refine by separation, distillation, extraction, filter method and incinerate remnants.
 - Dispose by neutralization, oxidation, reduction, polymerization and condensation reaction and incinerate remnants or dispose again by condensation, precipitation, filter, dehydration and incinerate remnants.
- B. Disposal Considerations
 - Consider precautions in Waste Control Act(if specified).

14. Transport information

- A. UN Number : No data available.
- B. UN proper shipping name : N/A
- C. UN hazardous ranking : N/A

| | | | |
|-----------------------------------------------------------------------------------|-----------------------------------------|-----------------------|------------------|
|  | Material Safety Data Sheet(MSDS-GHS) | Date of establishment | June, 3, 1996. |
| | Monobasic Sodium Phosphate (Di Hydrate) | Date of revision | March, 30, 2017. |
| | | Page | 8/8 |

- D. Un package group : N/A
- E. Marine pollutant : No data available
- F. Special precautions:
- In case of fire : N/A
 - in case of leakage : N/A

15. Regulatory Information

- A. Regulation by Occupational Safety and Health Act : N/A
- B. The Chemicals Control Act : N/A
- C. Dangerous Material Safety Management Regulation : N/A
- D. Waste Control Act : Designated waste
- E. Other regulation by Korea and foreign acts
- Korean Regulation

Persistent organic pollutants control acts : N/A
 - Foreign Regulation

U.S.A management information(OSHA Regulation) : N/A

U.S.A management information(CERCLA Regulation) : 2267.995 kg 5000lb

U.S.A management information(EPCRA 302 Regulation) : N/A

U.S.A management information(EPCRA 304 Regulation) : N/A

U.S.A management information(EPCRA 313 Regulation) : N/A

U.S.A management information(Roterdame Protocol) : N/A

U.S.A management information(Stockholme Protocol) : N/A

U.S.A management information(Montreal Protocol) : N/A

EU classification information(Classification) : N/A

EU classification information(Risk Phases) : N/A

EU classification information(Safety Phrases) : N/A

16. Other Information

- A. Data Source : Korean Occupational Safety and Health Act.
- B. Date of establishment : June, 3, 1996.
- C. Revision Number and recent revision date : Rev. No.6 / March, 30, 2017.
- D. Others : None.