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MSDS NO : AA00258-0000000012

## 1. Product and Company Identification

A. Product name : Tribasic Sodium Phosphate (Dodeca Hydrate)

B. Relevant identified uses of the substance or mixture and uses advised against

- Recommended Use : 18.1 Corrosion inhibitor(Boiler Treatment Compound),  
18.6 pH-regulating agents(pH Stabilizers), 18.9 Stabilizers,  
26. Pharmaceuticals, 31. Textile dyes and impregnating products  
32. Washing and cleaning products(Detergent, shampoo),  
47. Food and food additives (Raw materials for sugar manufacturing,  
alpha starch manufacturing, bittern)  
48. Others (Acidifier, feed, water holding capacity increase, emulsifier)

○ 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 1
- Severe eye damage or Eye irritative substance : classification 1
- Specific target organ toxicity (single exposure) : classification 3 (Respiratory System Irritation)

B. Warning marks

- Pictorial symbol



- Signal word: Danger

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○ Hazardous expression

H314 Causes severe skin burns and eye damage.<sup>1)</sup>

H318 Causes severe damage to eyes

H335 May cause irritation in Respiratory System

○ Precaution expression

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P264 Wash thoroughly after handling

P280 Wear protective gloves/protective clothing/ eye protection/face protection.

P271 Handle only in exterior or well-ventilated place.

○ Respond

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

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

P310 Immediately call a POISON CENTER or doctor/physician.

P312 IF you feel unwell, seek medical advice

P321 Get Medical advice

P363 Wash contaminated clothing before reuse.

○ Storage

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

P405 Store locked up.

○ 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=3, Fire=0, Reactivity=0

<sup>1)</sup> Australia, IMDG evaluation data

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### 3. Composition, Information on Ingredients

Chemical Name	Idiomatic name	Percent (%)	CAS No.
Tribasic Sodium Phosphate (Dodeca Hydrate)	Tribasic Sodium Phosphate(Dodeca Hydrate)	100%	10101-89-0

### 4. First Aid Measures

#### A. Eye Contact

- Take emergency medical service.
- Rinse cautiously with water for several minutes. Remove contact lenses, continue rinsing.

#### B. Skin Contact

- Prevent spread of contaminated area if skin contact is slight.
- Take emergency medical service.
- Wash contaminated clothing thoroughly before re-use.
- If the material is hot, soak affected area in a great quantity of cold water and wash to remove heat.
- If uncomfortable, consult medical personnel.
- Remove contaminated clothing and shoes. Isolate contaminated area.
- If on skin (or hair), take off immediately all contaminated clothing. Rinse skin with water/shower.

#### C. Inhalation


- If exposed to excess dust or fume, wash clear air. If there are cough or other symptoms, take medical action.
- Consult medical personnel immediately

#### D. Ingestion

- Take emergency medical service.
- if exposed, consult medical personnel.
- If the person ingested or inhaled the material, do not mouth-to-mouth resuscitation and use proper medical respiratory equipment.
- If swallowed, wash mouth out and do not induce vomiting.

#### E. Other medical notices.

- Let medical personnel recognize the material and take protective measure.
- Symptoms by Inhalation or contact may be delayed.

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## 5. Explosion / Fire Fighting Measures

### A. Appropriate (and inappropriate) Extinguishing Media

- Use alcohol foam, carbon dioxide or water spray.
- If extinguishing by smothering, use dry sand or earth.

### B. Specific Hazards in Presence of Chemical Substances

- If boiled, container may explode.
- Toxicity: Inhalation, ingestion, skin contact can cause severe injuries and death.
- Nonflammable, but material can decompose and generate corrosive and toxic fume if boiled.
- Contact with molten material can cause severe skin and eye burn.
- Contact with metal causes inflammable hydrogen gas partly.
- As oxidizer, the material may ignite inflammable materials partly.
- While burning, thermal decomposition or combustion can generate irritative and highly hazardous gas.


### C. Precaution and Protective equipments for Fire Fighting

- Rescuer should use appropriate protective equipment.
- Dig a ditch to dispose fire fighting water and keep material not dispersed.
- Keep water out of container.
- If not dangerous, move container from fire area.
- Keep proper distance while extinguishing.
- 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; Extinguish fire in maximum range or use unmanned fire apparatus in case of tank fires.
- Fire involving Tanks; Do not approach tank in flames.

## 6. Accidental Release Measures

### A. Require measures and protection to protect human body

- Do not inhale dust, smoke, gas, mist, steam, spray.
- Remove all ignition sources.
- Clear spilth immediately, follow precaution of Personal Protection section.

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- Keep water out of container.
- If not dangerous, stop any leakage.
- Do not touch broken container or leaked material without appropriate protective clothing.
- Take notice of material and condition to avoid.

#### B. Required measures to protect environment

- leaked material is corrosive and toxic, and can cause contamination.
- Prevent of inflow into waterway, drain, basement, or closed space.

#### C. Purification or removal method

- Absorb spilth with inactive material(e.g. dry sand or earth), put into chemical waste container.
- Absorb spilt liquid and wash out contaminated area with detergent and water.

## 7. Handling & Storage

#### A. Safe handling

- Do not inhale dust, smoke, gas, mist, steam, spray.
- Open cap carefully.
- Work in reference to Engineering Controls and Personal Protection.
- Handle only in exterior or well-ventilated place.
- Follow all precautions of MSDS/LABEL though container is emptied. Product residues can rest.
- Prevent long term or continuous skin contact.
- Wash thoroughly after handling.
- Use carefully taking notice of Handling & Storage.
- Pay attention to Conditions and Materials to Avoid.


#### B. Safe Storage

- Drain the water out from an empty drum and close properly and put it back to drum regulator or place appropriately.
- Store container in well-ventilated place and securely airtight.
- 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

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## B. Engineering Controls

- Install local exhaust ventilation, use process isolation or other ways to comply tolerable standard.
- If dust, fume or mist is generated while operating, ventilate to maintain air pollution lower than exposure limit.
- Install facility to clean and wash up nearby working place for emergency.

## 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.

### ○ Hands Protection : Wear appropriate chemical-resistant gloves.

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

## 9. Physical & Chemical Properties

A. Appearance: Solid white or colorless crystal(hexagonal)

B. Odor: None.

C. Odor Threshold : None

D. PH: 0.1% solution pH11.5

E. Melting point/Freezing point: 75°C

F. Initial Boiling point and Boiling point range: No data available.

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 : 9.9% at 20°C

(2) Insoluble in Alcohol and Carbon Disulfide.

M. Vapor Density: 13.15


N. Specific Gravity: 1.63

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

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

Q. Decomposition Temp.: 75°C

R. Viscosity: No data available

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S. Molecular Weight : 380.12

## 10. Stability & Reactivity

### A. Chemical stability and Possibility of hazardous reactions

- If boiled, container may explode. Contact with metal causes inflammable hydrogen gas partly.
- Material is nonflammable and does not burn itself, but can decompose and generate corrosive and toxic fume if boiled.
- As oxidizer, the material may ignite inflammable materials partly.
- Toxicity: Inhalation, ingestion, skin contact can cause severe injuries and death.
- Contact with molten material can cause severe skin and eye burn.
- Fire causes irritative, corrosive, toxic gas from material.

### B. Conditions to Avoid : Heat

### C. Materials to Avoid : Inflammable materials, reductive materials, metals.

### D. Hazardous Decomposition Products :

- While burning, thermal decomposition or combustion can generate irritative and highly poisonous gas.
- Corrosive and toxic fume.

## 11. Toxicological Information

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


### B. Health effect

- Acute oral toxicity:
  - ORAL : LD<sub>50</sub> 7400mg/kg Rat<sup>2)</sup>
  - SKIN : No data available.
  - Inhalation : No data available.
- Skin corrosivity or irritation : Skin contact causes burn. <sup>3)</sup>  
The pH of a 0.1% to 1% solution is 11.5 to 11.9 (Merck, 14th (2006))
- Severe eye damage or irritation : Eyes contact causes burn.<sup>4)</sup>  
The pH of a 0.1% to 1% solution is 11.5 to 11.9 (Merck, 14th (2006))
- Respiratory sensitization : No data available
- Skin sensitization : Not found on human body.

2) pubchem

3) Ministry of Health, Labour and Welfare(MHLW)

4) Ministry of Health, Labour and Welfare(MHLW)

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- Carcinogenesis
  - Occupational Safety and Health 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 : Study of mutagenicity came out negative.
- Reproductive toxicity : No data available
- Specific target organ toxicity (single exposure) : Damages the airway if inhaled.<sup>5)</sup>
- 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.
- F. ozone layer toxicity : No data available.

## 13. Disposal Considerations

- A. Disposal method

<sup>5)</sup> Australia, IMDG evaluation data, KOSHA, Ministry of Health, Labour and Welfare(MHLW)



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- Dispose of contents/container according to Waste Control Act(if specified).

#### B. Disposal Considerations

- Consider precautions in Waste Control Act(if specified).

### 14. Transport information

A. UN Number : 3262

B. UN proper shipping name : CORROSIVE, SOLID, BASIC, INORGANIC, N.O.S.

C. UN hazardous ranking : 8

D. Un package group : 2

E. Marine pollutant : No data available

F. Special precautions:

- In case of fire : F-A

- in case of leakage : S-B

### 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(Rotterdam Protocol) : N/A

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

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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.7 / March, 29, 2024.
  - 12. Environmental impact and ozone layer hazards added
  - 9. Modification of physical properties and water solubility
  - 11. Indication of source of information on toxicity
- D. Others : None.