

DISODIUM PHOSPHATE (DSP)

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SECTION 1: IDENTIFICATION

1.1 GHS Product identifier:

DISODIUM PHOSPHATE (DSP)
Sodium Phosphate, Dibasic; Disodium Hydrogen Phosphate
CAS: 7558-79-4

Other means of identification:

Not relevant

1.2 Recommended use of the chemical and restrictions on use:

Relevant uses: Food additive (buffering/emulsifying/sequestering agent), detergent builder, water treatment buffer, fertilizer/industrial phosphate source, textile processing aid. For industrial user only.
Uses advised against: All uses not specified in this section or in section 7.3.

1.3 Supplier's details:

SURAJ CHEMICALS
No 92, Govindappa Naicken Street, Shiva Complex, Chennai – 600001, Tamil Nadu, India
Tel: +91 - 7092722822, +91 - 9840284032 / +91 - 44 - 25393652, 42130281
Email: sales@surajchemicals.com | Website: www.surajchemicals.com
GST No: 33ACEPV8190L1ZZ

1.4 Emergency phone number:

Emergency Contact No: +91 - 7092722822, +91 - 9840284032

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture:

GHS:
Classification of this product has been carried out in accordance with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Eye Irrit. 2A	Eye irritation, Category 2A, H319
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2.2 GHS label elements, including precautionary statements:

GHS: Warning

Hazard statements:

Eye Irrit. 2A: H319 – Causes serious eye irritation.

Precautionary statements:

P264: Wash hands thoroughly after handling.
P280: Wear eye protection.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313: If eye irritation persists: Get medical advice/attention.
P501: Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards which do not result in classification:

Aqueous solutions are mildly to moderately alkaline. Not a PBT or vPvB substance.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances:

Chemical description: Disodium Phosphate
In accordance with Annex 4.3.3 of the GHS, the product contains:

Identification	Chemical Name / Classification	Concentration
CAS: 7558-79-4	Disodium Phosphate — Eye Irrit. 2A: H319 – Warning	≥ 97% (food/technical grade; anhydrous or hydrate forms)

To obtain more information on the hazards of the substances, consult sections 11, 12 and 16.

3.2 Mixtures:

Non-applicable

SECTION 4: FIRST AID MEASURES

4.1 Description of necessary first-aid measures:

Request medical assistance if symptoms persist, showing the SDS of this product.

By inhalation:

Remove to fresh air if dust causes discomfort. Seek medical attention if symptoms persist.

By skin contact:

Wash with plenty of water. Remove contaminated clothing if heavily soiled.

By eye contact:

Rinse immediately with plenty of water for at least 15 minutes, holding eyelids open. Remove contact lenses if present and easy to do. Seek medical attention as irritation may be significant.

By ingestion/aspiration:

Rinse mouth with water. Give water to drink if conscious. Seek medical attention if large quantities are ingested.

4.2 Most important symptoms/effects, acute and delayed:

Irritation of eyes from dust or concentrated solutions due to alkalinity. See sections 2 and 11.

4.3 Indication of immediate medical attention and special treatment needed, if necessary:

Not relevant

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Suitable extinguishing media:
Suitable: Water spray, dry chemical powder, carbon dioxide, foam – use extinguishing media appropriate for the surrounding fire.
Unsuitable: None known.

5.2 Specific hazards arising from the chemical:
Non-combustible solid. On strong heating decomposes releasing phosphorus oxide fumes.

5.3 Special protective actions for fire-fighters:
Standard fire-fighting procedures. Wear self-contained breathing apparatus if decomposition fumes are present in a confined space.

Additional provisions:
Cool containers exposed to fire with water spray if safe to do so.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:
For non-emergency personnel:
Avoid raising dust. Use personal protective equipment as per section 8.
For emergency responders:
No special equipment required beyond standard PPE listed in section 8.

6.2 Environmental precautions:
Avoid large-scale release to water courses, as it may contribute to localized nutrient (phosphate) loading.

6.3 Methods and materials for containment and cleaning up:
Sweep up and shovel into a suitable, labelled container for reuse or disposal. Avoid generating dust.

6.4 Reference to other sections:
See sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling:
A. General precautions for safe use:
Avoid generation and inhalation of dust. Avoid contact with eyes. Keep away from strong acids.

B. Technical recommendations for the prevention of fires and explosions:
Non-combustible; no special fire-prevention measures required beyond good housekeeping.

C. Technical recommendations on general occupational hygiene:
Do not eat, drink or smoke while handling non-food-grade material. Wash hands thoroughly after use.

D. Technical recommendations to prevent environmental risks:
Prevent spillage from entering drains or water courses.

7.2 Conditions for safe storage, including any incompatibilities:
A. Specific storage requirements:

Minimum Temp.	Ambient
Maximum Temp.	35°C
Maximum time	Typical value – refer to current specification sheet

B. General conditions for storage:
Store in a cool, dry, well-ventilated place in tightly closed containers/bags, away from strong acids and moisture. For additional information see subsection 10.5.

7.3 Specific end use(s):
Except for the instructions already specified, it is not necessary to provide any special recommendation regarding the uses of this product.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters:
No specific occupational exposure limit established for disodium phosphate; a general particulate (nuisance dust) limit is applicable, per the Factories Act, 1948 (Act No. 63 of 1948), as amended by the Factories (Amendment) Act, 1987 (Act 20 of 1987):

Identification	Occupational Exposure Limit Type	Value
Disodium Phosphate (as inert/nuisance dust) CAS: 7558-79-4	Time Weighted average concentration (8 hrs), total dust	10 mg/m³

8.2 Appropriate engineering controls:
General ventilation is normally adequate; use local exhaust ventilation where significant dust is generated.

B. Respiratory protection:
Dust mask recommended in dusty conditions.

C. Specific protection for the hands:
Protective gloves recommended for prolonged handling.

D. Eye and face protection:
Chemical safety goggles recommended – eye contact may cause significant irritation.

E. Bodily protection:
Standard work clothing.

F. Additional emergency measures:
Eyewash station should be available where handled in bulk.

Environmental exposure controls:
Avoid large-scale environmental spillage. See subsection 7.1.D.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

Appearance	
Physical state at 20°C	Solid (crystalline powder/granules)
Appearance	White crystalline powder
Color	White
Odor	Odorless
Odour threshold	Not relevant

Volatility	
Decomposition temperature	> 250°C (decomposes, anhydrous form)
Vapour pressure at 20°C	Negligible (solid)
Evaporation rate at 20°C	Non-applicable (solid)
Product Description	
Molecular weight	≈ 141.96 g/mol (anhydrous)
Density / Relative density at 20°C	≈ 1.70 g/cm³ (anhydrous); varies with hydrate form
Bulk density	Typical value – refer to current specification sheet
pH (5% aqueous solution)	≈ 9.1 – 9.3 (alkaline)
Solubility in water at 20°C	Soluble, ≈ 77 g/L (anhydrous, 20°C)
Partition coefficient n-octanol/water	Not relevant (inorganic salt)
Melting point/freezing point	≈ 250°C (anhydrous, with decomposition); dodecahydrate loses water earlier
Flammability	
Flash Point	Non-applicable
Flammability (solid, gas)	Non-flammable
Autoignition temperature	Non-applicable
Lower / Upper flammability limit	Non-applicable
Particle Characteristics	
Median equivalent diameter	Typical value – refer to current specification sheet

** Values marked "Typical value" are not standardized and vary by batch/grade – refer to the current specification sheet.*

9.2 Other information:

Explosive properties	Not relevant
Oxidising properties	Non-oxidising
Corrosive to metals	Not relevant
Heat of combustion	Non-applicable (non-combustible)
Viscosity	Non-applicable (solid)
Refraction index	Not relevant

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity:

Reacts with strong acids. Mildly hygroscopic, depending on hydrate form.

10.2 Chemical stability:

Chemically stable under the indicated conditions of storage, handling and use.

10.3 Possibility of hazardous reactions:

Under the specified conditions, hazardous reactions leading to excessive temperature or pressure are not expected.

10.4 Conditions to avoid:

Shock/Friction	Contact with Air	Increase in Temperature	Sunlight	Humidity
Not applicable	Not significant	Avoid prolonged heating above 250°C	Not significant	Avoid prolonged exposure

10.5 Incompatible materials:

Strong Acids	Strong Oxidizers	Moisture
Avoid contact	No known reactivity	Avoid prolonged exposure

10.6 Hazardous decomposition products:

Phosphorus oxide fumes on strong heating/decomposition.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

Disodium phosphate has low acute toxicity and is widely used as a food additive at regulated concentrations. In case of exposure that is repetitive, prolonged, or at concentrations higher than the recommended occupational exposure limits, adverse health effects may result depending on the means of exposure:

A. Ingestion (acute effect):

Low acute oral toxicity. Very large doses may cause gastrointestinal discomfort/laxative effect.

B. Inhalation (acute effect):

Dust may cause irritation of the respiratory tract.

C. Contact with skin and eyes (acute effect):

Causes serious eye irritation due to alkalinity. Not expected to be a significant skin irritant.

D. CMR effects (carcinogenicity, mutagenicity, reproductive toxicity):

Classification criteria for carcinogenicity, mutagenicity and reproductive toxicity are not met based on available data. IARC: Not listed.

E. Sensitizing effects:

Classification criteria for respiratory or skin sensitisation are not met based on available data.

F. Specific target organ toxicity (STOT) – single exposure:

Classification criteria are not met based on available data.

G. Specific target organ toxicity (STOT) – repeated exposure:

Classification criteria are not met based on available data.

H. Aspiration hazard:

Not relevant (solid).

Product-specific toxicological information:

Identification	Acute Toxicity	Genus
Disodium Phosphate CAS: 7558-79-4	LD50 oral: ≈ 17,000 mg/kg (practically non-toxic)	Rat

	LD50 dermal: Not established	–
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SECTION 12: ECOLOGICAL INFORMATION

Low acute aquatic toxicity. Excessive phosphate input may contribute to eutrophication.

12.1 Toxicity:

Identification	Acute Toxicity	Species	Genus
Disodium Phosphate CAS: 7558-79-4	LC50: > 100 mg/L (96h) – low acute toxicity	Non-applicable	Fish

12.2 Persistence and degradability:
Dissociates in water to sodium and phosphate ions; phosphate is subject to natural biogeochemical cycling.

12.3 Bioaccumulative potential:
Not expected to bioaccumulate (inorganic salt, log Pow not applicable).

12.4 Mobility in soil:

Koc	Henry	Dry Soil	Moist Soil
Not relevant	Not relevant	Highly mobile (soluble)	Moderate – phosphate binds to soil particles

12.5 Results of PBT and vPvB assessment:
Non-applicable – inorganic substance, PBT/vPvB criteria do not apply.

12.6 Other adverse effects:
Excessive phosphate input to water bodies may contribute to eutrophication/algal bloom.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Disposal methods:
Non-hazardous waste; dispose of via a licensed waste contractor in accordance with local regulations. For packaging: recover/recycle where possible.
Refer to national and local regulations on waste management.

SECTION 14: TRANSPORT INFORMATION

Transport of dangerous goods by land (ADR 2023 / RID 2023):

14.1 UN number	Not assigned – not regulated as dangerous goods
14.2 UN proper shipping name	Non-applicable
14.3 Transport hazard class(es)	Not classified
14.4 Packing group	N/A
14.5 Environmental hazard	No
14.6 Special precautions for user	Physico-chemical properties: see section 9
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

Transport of dangerous goods by sea (IMDG 41-22):

14.1 UN number	Not assigned – not regulated as dangerous goods
14.2 UN proper shipping name	Non-applicable
14.3 Transport hazard class(es)	Not classified
14.4 Packing group	N/A
14.5 Marine pollutant	No
14.6 Special precautions for user	Non-hazardous for sea transport
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

Transport of dangerous goods by air (IATA/ICAO 2024):

14.1 UN number	Not assigned – not regulated as dangerous goods
14.2 UN proper shipping name	Non-applicable
14.3 Transport hazard class(es)	Not classified
14.4 Packing group	N/A
14.5 Environmental hazard	No
14.6 Special precautions for user	Non-hazardous for air transport
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations specific for the product in question:
It is recommended to use the information included in this safety data sheet as data used in a risk evaluation of local circumstances, in order to establish the necessary risk prevention measures for the manipulation, use, storage and disposal of this product.

Other legislation:
The Factories Act, 1948 (Act No. 63 of 1948), as amended by the Factories (Amendment) Act, 1987 (Act 20 of 1987)
Food Safety and Standards (FSS) Regulations, where applicable to food-grade material
Public Liability Insurance Act, 1991

SECTION 16: OTHER INFORMATION

Legislation related to safety data sheets:
This safety data sheet has been designed in accordance with Annex 4 – Guidance on the preparation of Safety Data Sheets of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Texts of the legislative phrases mentioned in sections 2 and 3:
H319: Causes serious eye irritation.
The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3.

Advice related to training:
Minimal training is recommended to prevent industrial risks for staff using this product, in order to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

Principal bibliographical sources:

The United Nations Economic Commission for Europe (UNECE); publicly available GHS classification references.

Abbreviations and acronyms:

ADR: European agreement concerning the international carriage of dangerous goods by road | IMDG: International maritime dangerous goods code | IATA: International Air Transport Association | ICAO: International Civil Aviation Organisation | LD50: Lethal Dose 50 | LC50: Lethal Concentration 50 | EC50: Effective Concentration 50 | Log-POW: Octanol-water partition coefficient | Koc: Partition coefficient of organic carbon | IARC: International Agency for Research on Cancer

The information contained in this safety data sheet is based on sources, technical knowledge and current legislation, without being able to guarantee its accuracy. This information cannot be considered a guarantee of the properties of the product; it is simply a description of the security requirements. The occupational methodology and conditions for users of this product are not within Suraj Chemicals' awareness or control, and it is ultimately the responsibility of the user to take the necessary measures to obtain the legal requirements concerning the manipulation, storage, use and disposal of chemical products. The information on this safety data sheet only refers to this product, which should not be used for needs other than those specified.

END OF SAFETY DATA SHEET