SAFETY DATA SHEET

ANTISCALANT

CAS No.: Proprietary blend

This Safety Data Sheet is issued by Suraj Chemicals as the distributor/supplier of record, based on manufacturer and published GHS / regulatory reference data for this substance. Users should also consult the specific manufacturer's SDS where available.

1. IDENTIFICATION

GHS Product identifier

ANTISCALANT
Polyelectrolyte Solution (Potassium salt / acrylic copolymer blend)
CAS: Proprietary blend

Other means of identification

Not relevant

Recommended use of the chemical and restrictions on use

Relevant uses: Scale inhibitor for reverse osmosis (RO), boiler and cooling water treatment systems. For industrial user only.

Uses advised against: All uses not specified in this section or in section 7.3.

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

Emergency phone number

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

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

GHS:
Not classified as hazardous under the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) based on available data. Acute toxicity of certain components has not been fully characterised (unknown toxicity: oral 0.0%, dermal 0.0%, inhalation vapor 37.4%, inhalation dust/mist 38.2% of the mixture).

Not classified	No hazard symbol or signal word assigned

GHS label elements, including precautionary statements

GHS: No signal word

Hazard statements

None assigned.

Precautionary statements

P273: Avoid release to the environment.
P501: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in classification

None identified.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substances

Chemical description: Aqueous polyelectrolyte solution (antiscalant blend)

In accordance with Annex 4.3.3 of the GHS, the product contains:

Identification	Chemical Name / Classification	Concentration
CAS: Confidential (trade secret)	Potassium salt (polyelectrolyte) – Not classified	10–20%
CAS: Confidential	Acrylic copolymer / phosphonate components – Not classified	Balance (proprietary)

A specific chemical identity and/or percentage of composition has been withheld as a trade secret. To obtain more information on the hazards of the substances, consult sections 11, 12 and 16.

Mixtures

This product is a mixture (proprietary polyelectrolyte blend); see 3.1.

4. FIRST AID MEASURES

Description of necessary first-aid measures

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

By inhalation

Remove exposed person to fresh air if adverse effects are observed.

By skin contact

Wash with soap and water. If skin irritation occurs, get medical attention.

By eye contact

Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses.

By ingestion/aspiration

Treat symptomatically. Get medical attention.

Most important symptoms/effects, acute and delayed

May cause irritation of the gastrointestinal tract if ingested. Overexposure to vapors or mist may cause dizziness, headache, nausea and/or flu-like symptoms; persons with sensitive airways (e.g. asthmatics) may react. Prolonged or repeated skin/eye contact may cause irritation.

Indication of immediate medical attention and special treatment needed, if necessary	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	**Suitable:** CO2, dry chemical, foam, water spray, water fog. **Unsuitable:** Not determined.
Specific hazards arising from the chemical	No unusual fire or explosion hazards noted. Material will not burn until water has evaporated. Container may rupture on heating. When heated, hazardous gases may be released, including sulfur dioxide.
Special protective actions for fire-fighters	Wear full protective firegear including self-contained breathing apparatus operated in positive pressure mode with full facepiece, coat, pants, gloves and boots. **Additional provisions** None.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	**For non-emergency personnel** Ventilate area if spilled in confined space or other poorly ventilated areas. Wear personal protective equipment as per Section 8. **For emergency responders** Wear protective equipment as above. Keep unprotected persons away.
Environmental precautions	Avoid release to the environment. Prevent further leakage or spillage if safe to do so.
Methods and materials for containment and cleaning up	Dike far ahead of larger spills for later recovery and disposal. Pick up free liquid for recycle and/or disposal. Residual liquid can be absorbed on inert material. Wash area with soap and water. Spilled liquid and dried film are slippery – use care to avoid falls.
Reference to other sections	See sections 8 and 13.

7. HANDLING AND STORAGE

Precautions for safe handling

A. General precautions for safe use
Do not breathe dusts or mists. Do not get in eyes, on skin, on clothing. Wash hands thoroughly after handling. Stir well before use; keep containers closed when not in use.

B. Technical recommendations for the prevention of fires and explosions
Not applicable – product is aqueous and non-flammable under normal conditions.

C. Technical recommendations on general occupational hygiene
Do not eat, drink or smoke while using this product. Launder contaminated clothing before reuse.

D. Technical recommendations to prevent environmental risks
Avoid environmental contamination. Minimize contact with air to reduce contamination with mold, fungus or other organisms which could cause decomposition or spoilage.

Conditions for safe storage, including any incompatibilities

A. Specific storage requirements

Storage condition	Store away from incompatible materials; keep from freezing
Incompatible materials	Alkalies, bases, strong oxidizers

B. General conditions for storage
Do not store in open, unlabeled or mislabeled containers. Keep container closed when not in use.

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.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

Identification	Occupational Exposure Limit Type	Value
Propionic acid (trace component)	TWA	10 mg/m³
Other components	–	None of the components have assigned exposure limits

Appropriate engineering controls
Use material in well-ventilated area only. Mechanical ventilation or local exhaust ventilation may be required.

B. Respiratory protection
Not usually required under normal use conditions. Use appropriate respiratory protection if exposure to dust particles, mist or vapors is likely.

C. Specific protection for the hands
Chemically protective gloves if contact with the material may occur.

D. Eye and face protection
Safety glasses with side shields if contact is likely.

E. Bodily protection
Gloves, coveralls, apron, boots as necessary to minimize contact.

F. Additional emergency measures
Emergency eyewash and safety shower recommended.

Environmental exposure controls
Avoid environmental contamination and release.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	
Physical state at 20°C	Liquid
Appearance	Liquid
Color	White
Odor	Slight
Odour threshold	No data available
Volatility	
Boiling point at atmospheric pressure	101°C (214°F)
Vapour pressure at 20°C	Approx. 17 torr
Evaporation rate	< 1 (n-butyl acetate = 1)
Product Description	
Relative density at 20°C	1.15
Viscosity	< 100 mPa.s (25°C)
Concentration	37% solids (by weight)
pH	2.5–3.5
Vapour density	< 1 (vs. air)
Partition coefficient n-octanol/water	No data available
Solubility in water at 20°C	Dispersible
Decomposition temperature	No data available
Melting point/freezing point	-1°C
Flammability	
Flash Point	Not applicable
Flammability (solid, gas)	No data available
Autoignition temperature	No data available
Lower / Upper flammability limit	No data available

Other information

VOC content	< 0.5%
Oxidising properties	No data available
Corrosive to metals	Not established

10. STABILITY AND REACTIVITY

Reactivity
No data available.

Chemical stability
Material is stable under normal conditions.

Possibility of hazardous reactions
Will not occur.

Conditions to avoid

Shock/Friction	Contact with Air	Increase in Temperature	Sunlight	Humidity
Not applicable	Not applicable	Not applicable	Not applicable	Do not freeze

Incompatible materials
Alkalies. Bases. Strong oxidizers.

Hazardous decomposition products
Thermal decomposition or combustion may generate smoke, carbon monoxide, carbon dioxide, sulfur oxides, mercaptans, sulfides (including hydrogen sulfide), phosphorus oxides, potassium oxides and sodium oxides.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

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)
May cause irritation of the gastrointestinal tract. Not classified for acute toxicity based on available data.

B. Inhalation (acute effect)
Overexposure to vapors or mist may cause dizziness, headache, nausea and/or flu-like symptoms. Not classified for acute toxicity based on available data.

C. Contact with skin and eyes (acute effect)
Prolonged or repeated contact may cause irritation; not classified as a primary skin or eye irritant.

D. CMR effects (carcinogenicity, mutagenicity, reproductive toxicity)
No data available. No carcinogenic components identified per IARC/NTP/OSHA.

E. Sensitizing effects
No data available.

F. Specific target organ toxicity (STOT) – single exposure
No data available.

G. Specific target organ toxicity (STOT) – repeated exposure
No data available.

H. Aspiration hazard
No data available.

Product-specific toxicological information

Identification	Acute Toxicity	Genus
Product (mixture)	Not classified for acute toxicity based on available data	–

12. ECOLOGICAL INFORMATION

Avoid release to the environment.

Toxicity

Acute Toxicity	Species	Genus
LC50: 996 mg/l (4d)	Fathead minnow	Fish
LC50 (potassium salt): 368 mg/l (4d)	Rainbow trout	Fish
EC50: 659 mg/l (2d)	Water flea (Daphnia magna)	Crustacean
EC50 (alga): 307 mg/l (3d)	Alga	Aquatic plant

Persistence and degradability

Potassium salt component: OECD TG 302B, 33% (28 d); OECD TG 301D, 5% (30 d).

Bioaccumulative potential

No data available.

Mobility in soil

Koc	Henry	Dry Soil	Moist Soil
No data available	No data available	No data available	No data available

Results of PBT and vPvB assessment

Not established.

Other adverse effects

No data available.

13. DISPOSAL CONSIDERATIONS

Disposal methods

Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable Federal, State/Provincial and local regulations. Empty containers may retain product residue which can exhibit hazards of the product.

Refer to national and local regulations on waste management.

14. TRANSPORT INFORMATION

Transport of dangerous goods by land (ADR/RID / national road transport rules)

14.1 UN number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
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)	None known

Transport of dangerous goods by sea (IMDG)

14.1 UN number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	N/A
14.5 Marine pollutant	No
14.6 Special precautions for user	None known
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	None known

Transport of dangerous goods by air (IATA/ICAO)

14.1 UN number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	N/A
14.5 Environmental hazard	No
14.6 Special precautions for user	None known
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	None known

15. REGULATORY INFORMATION

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

Manufacture, Storage and Import of Hazardous Chemicals Rules 1989
The Factories Act, 1948 (Act No. 63 of 1948), as amended by the Factories (Amendment) Act, 1987 (Act 20 of 1987)

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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

Not classified – no hazard statements assigned to this product based on available data.

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

Manufacturer's reference SDS for the antiscalant polyelectrolyte formulation; publicly available GHS classification guidance.

Abbreviations and acronyms

OECD: Organisation for Economic Co-operation and Development | TG: Test Guideline | LC50: Lethal Concentration 50 | EC50: Effective Concentration 50 | VOC: Volatile Organic Compound | IARC: International Agency for Research on Cancer | NTP: National Toxicology Program

Disclaimer: 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.

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