SAFETY DATA SHEET (MSDS / SDS) – as per GHS (Rev. 9)

Hydrolysed Polymaleic Anhydride / Polymaleic Acid — ZEELCHEM™ 200

High-temperature scale inhibitor for boilers, evaporators, desalination and high-alkalinity water, effective up to 300 °C.

Product code	ZEELCHEM™ 200
Chemical type	Polymaleic Acid (HPMA)
CAS No.	26099-09-2
HS Code	3911 90 90

SECTION 1: Identification of the substance / mixture and of the company

Product identifier	ZEELCHEM™ 200 – Polymaleic Acid (HPMA)
Synonyms	HPMA; hydrolysed polymaleic anhydride; polymaleic acid; maleic acid homopolymer; PMA scale inhibitor
Recommended use	Scale inhibitor and dispersant for industrial water treatment (cooling, boiler, RO formulations)
Uses advised against	Not for food, drug, household or cosmetic use unless specifically approved.
Supplier	ZEEL PRODUCT, A-23, Reva Duplex, Near Shyamal Greens, Behind Bharat Petrol Pump, Ankhol, New Waghodia Road, Vadodara, Gujarat – 390019, India
Telephone / email	+91 97245 93964 / +91 97238 59512 · zeelproduct@gmail.com
Emergency telephone	+91 97245 93964 (office hours, India)

SECTION 2: Hazard identification



GHS07
Exclamation mark
Signal word: **WARNING**

GHS classification	Skin irritation, Category 2 (H315) · Eye irritation, Category 2A (H319)
Signal word	WARNING
Hazard statements	H315 Causes skin irritation. H319 Causes serious eye irritation.
Precautionary statements	P264 Wash hands thoroughly after handling. P280 Wear protective gloves / eye protection / face protection. P302+P352 IF ON SKIN: Wash with plenty of water. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P332+P313 If skin irritation occurs: Get medical advice. P337+P313 If eye irritation persists: Get medical advice.
Other hazards	Acidic aqueous solution (pH 2–3). Corrosive to mild steel, copper and aluminium. Not PBT / vPvB.

SECTION 3: Composition / information on ingredients

Component	CAS No.	Concentration (w/w)
Polymaleic Acid (HPMA) (polymer)	26099-09-2	≥ 48 %
Residual monomer	–	≤ 0.5 %
Water	7732-18-5	Balance

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SECTION 4: First-aid measures

Eye contact	Rinse immediately with plenty of water for at least 15 minutes, holding eyelids apart. Remove contact lenses. Get medical advice if irritation persists.
Skin contact	Remove contaminated clothing. Wash skin with soap and plenty of water. Get medical advice if irritation develops.
Inhalation	Not expected to be an inhalation hazard. Move to fresh air if mist is inhaled and discomfort occurs.
Ingestion	Rinse mouth with water. Do NOT induce vomiting. Give a glass of water to drink. Get medical advice.
Most important symptoms	Redness and irritation of eyes and skin.
Notes to physician	Treat symptomatically.

SECTION 5: Fire-fighting measures

Suitable extinguishing media	Water spray, foam, dry chemical, CO2 – as appropriate for surrounding fire. Product is an aqueous solution and is not flammable.
Specific hazards	On drying and burning, may produce carbon monoxide, carbon dioxide.
Advice for fire-fighters	Wear self-contained breathing apparatus and full protective clothing.

SECTION 6: Accidental release measures

Personal precautions	Wear goggles, gloves and boots. Spilled product is slippery.
Environmental precautions	Prevent large quantities from entering drains, surface water or soil.
Methods for clean-up	Contain with sand or inert absorbent. Neutralise residues with soda ash or lime. Collect in labelled containers for disposal. Flush the area with water.

SECTION 7: Handling and storage

Safe handling	Avoid contact with eyes and skin. Use in well-ventilated areas. Do not eat, drink or smoke while handling.
Storage conditions	Store in HDPE containers in a cool, shaded, ventilated place (5 °C – 40 °C). Keep containers tightly closed. Acidic, so avoid unlined mild steel and copper. Handle with PP, PVDF or SS316 dosing equipment. Shelf life is 12 months in unopened original packing.
Incompatible materials	Strong bases, strong oxidising agents, mild steel, copper, aluminium (undiluted product).

SECTION 8: Exposure controls / personal protection

Occupational exposure limits	No exposure limits established for the polymer.
Engineering controls	General ventilation. Eyewash station and safety shower near the work area.
Eye / face protection	Chemical safety goggles (EN 166 or equivalent).
Hand protection	Nitrile or PVC gloves.
Body protection	Apron and safety shoes.
Respiratory protection	Not normally required. Use a mist respirator if spray mists are generated.

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SECTION 9: Physical and chemical properties

Physical state / appearance	Light yellow to amber, clear liquid
Odour	Slight, characteristic
pH (1 % aqueous solution)	2.0 – 3.0
Density at 20 °C	≥ 1.18 g/cm³
Solid content	≥ 48.0 %
Solubility in water	Completely miscible
Boiling point	≈ 100 °C (water)
Freezing point	≈ 0 °C (water)
Flash point	Not applicable (aqueous solution)
Flammability	Not flammable
Explosive / oxidising properties	None
Vapour pressure	As water

SECTION 10: Stability and reactivity

Reactivity	Reacts with strong bases (exothermic neutralisation).
Chemical stability	Stable under recommended storage conditions.
Conditions to avoid	Freezing, temperatures above 50 °C during storage, direct sunlight.
Hazardous decomposition products	None under normal conditions. See Section 5 for combustion products.

SECTION 11: Toxicological information

Acute oral toxicity	LD50 (rat) expected > 2000 mg/kg (based on data for similar low molecular weight polycarboxylates).
Skin corrosion / irritation	Irritating to skin (acidic).
Eye damage / irritation	Causes serious eye irritation.
Sensitisation	Not a skin sensitiser.
Mutagenicity / carcinogenicity / reproductive toxicity	Not classified. No components listed as carcinogens by IARC.

SECTION 12: Ecological information

Aquatic toxicity	Low toxicity to fish, daphnia and algae (expected LC/EC50 > 100 mg/L, based on similar polymers).
Persistence and degradability	Not readily biodegradable; removed largely by adsorption onto sludge in wastewater treatment plants.
Bioaccumulation	Not expected (high molecular weight, water soluble).
Mobility in soil	Water soluble; adsorbs on soil and sediment.
Other effects	Phosphorus-free.

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SECTION 13: Disposal considerations

Product	Dispose of in accordance with the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and local regulations. Neutralise before discharge to an effluent treatment plant.
Packaging	Rinse empty containers with water and reuse for the same product, or send to an authorised recycler.

SECTION 14: Transport information

UN number	Not regulated
UN proper shipping name	Not regulated as dangerous goods
Transport hazard class	Not applicable
Packing group	Not applicable
Road / rail (ADR / RID), sea (IMDG), air (IATA)	Not classified as dangerous goods for transport.
Environmental hazards	Not a marine pollutant

SECTION 15: Regulatory information

GHS	Classified according to the UN Globally Harmonised System (GHS), Rev. 9.
India	Users should comply with the Manufacture, Storage and Import of Hazardous Chemical Rules, 1989, the Factories Act, 1948 and applicable state rules.
Inventories	Users importing or exporting the product should check the status of the polymer on the inventories of the destination country.

SECTION 16: Other information

Revision	Rev. 01 · Date of issue 20-11-2026
Abbreviations	GHS – Globally Harmonised System; LD50 / LC50 – lethal dose / concentration 50 %; PBT – persistent, bioaccumulative, toxic; PPE – personal protective equipment.
Disclaimer	The information in this safety data sheet is based on our present knowledge and is given in good faith. It describes the product with regard to safety requirements and does not represent a guarantee of properties.

Prepared by: QC / EHS Department

Approved by: QC Manager / Authorised Signatory

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