TECHNICAL DATA SHEET

Product name: **Sodium Bisulfate** (Sodium hydrogen sulfate)

Identifiers & Codes

Chemical name: Sodium bisulfate / Sodium hydrogen sulfate

Formula: NaHSO4.

Molecular weight: 120.06 g·mol

CAS number (anhydrous): **7681-38-1**.

EINECS / EC number: **231-665-7**.

Food additive (EU) code: **E514(ii)** (sodium hydrogen sulfate / sodium bisulfate).

Product description

A white, odorless granular or crystalline acid salt produced by partial neutralization of sulfuric acid with a sodium source. The anhydrous form is hygroscopic; monohydrate is also commercially available. Solutions are strongly acidic (1 M ~ pH slightly below 1).

Typical physical & chemical properties (typical — for reference only)

Appearance: White granular or crystalline powder.

Assay (as NaHSO4): see Specification table below.

Molecular weight: 120.06 g/mol.

Solubility in water: highly soluble (approx. 50 g/100 mL at 0 °C; increases with temperature).

Melting / decomposition: around 150–157 °C (anhydrous; may dehydrate/convert to pyrosulfate on heating).

pH (1 M): strongly acidic (< ~1).

Specification (Typical commercial grades — customizable on request)

Item	Food Grade (typ.)	Technical Grade (typ.)	Test Method
Appearance	White crystalline / granular	White crystalline / granular	Visual
NaHSO4 (assay)	≥ 93.0%	≥ 90.0%	Titration / IC
Na_2SO_4 (as impurity)	≤ 6.0%	≤ 8.0%	Gravimetric / IC
Insoluble matter	≤ 0.1%	≤ 0.5%	Filtration
Heavy metals (as Pb)	≤ 5 ppm (food grade)	≤ 20 ppm	AAS / ICP
Appearance	White	White to off-white	Visual

(color)			

Notes: Spec ranges above are examples for common commercial grades. We can supply customized specs (higher purity, low-metal, FCC/food grade certificate, etc.) on request.

Primary Applications / Uses

Sodium bisulfate is used wherever a solid, easy-to-handle acid or pH-lowering agent is required. Typical applications include:

Printed Circuit Board (PCB) etching — used as an acid medium for etching and cleaning processes in the electronics industry, offering controlled acidity and easy handling compared to liquid acids.

Food industry — food acidulant / acidity regulator, leavening adjuncts, anti-browning and processing aid (food-grade material meeting FCC); approved in various markets (GRAS listing in US; E514(ii) in EU).

Swimming pools & spas — dry acid for pH reduction (alternative to liquid acids).

Animal husbandry / litter treatment — poultry litter acidification to control ammonia emissions and microbial load.

Metal cleaning / pickling & industrial cleaning — component in dry acid bath formulations and cleaning agents.

Construction / concrete wash-out — alkalinity reduction in wash-out ponds and grout acidification.

Agriculture / agrochemical adjuvant — pH adjustment in spray tanks to protect pH-sensitive pesticides from alkaline hydrolysis.

Textile & leather — pH adjustment in processing, dye fixation and finishing steps.

Chemical intermediate — used in formulations and as an acidity regulator in various industrial processes.

Regulatory / Approvals (summary)

Listed as food-grade additive in several jurisdictions (GRAS notice for sodium bisulfate in the US; permitted as E514(ii) in the EU). For food uses, material must meet Food Chemicals Codex (FCC) / local food-grade specifications.

Handling & Storage

Store in a cool, dry, well-ventilated warehouse, away from moisture, strong bases, and oxidizing agents. The product is hygroscopic — keep containers tightly closed.

Avoid exposure to alkaline materials (reacts) and to metals (corrosive to some metals if wet).

Packaging

Typical: 25 kg kraft paper bag with PE liner; 500 kg or 1000 kg big bags available on request.

Special packing (food-grade inner liners, fumigation certificates, OEM packaging) available upon request.

Transport & Shipping

Non-flammable; however, observe local regulations for shipping of acidic inorganic salts. Keep dry and protected from moisture.

Safety & First Aid

Hazards: Corrosive to eyes and skin in concentrated exposures; inhalation of dust may irritate respiratory tract.

First aid:

Inhalation: Move to fresh air; seek medical attention if symptoms persist.

Skin contact: Rinse immediately with plenty of water; remove contaminated clothing.

Eye contact: Rinse cautiously with water for several minutes; remove contact lenses if present and easy to do — continue rinsing and seek medical attention.

Ingestion: Rinse mouth; do NOT induce vomiting; seek medical attention.

Refer to the Safety Data Sheet (SDS / MSDS) for full details on PPE, exposure limits, firefighting measures and disposal.

Waste & Disposal

Dispose of in accordance with local, regional and national regulations. Neutralize with suitable alkaline material under controlled conditions before disposal if allowed by regulation and facility capability.

Quality & Certificates

Available certificates: Certificate of Analysis (COA), Material Safety Data Sheet (SDS), Certificate of Origin (COO), and (on request) Food Grade Certificate / FCC compliance documentation.

Quality control: Each batch tested against agreed specifications (assay, moisture, heavy metals, insolubles).