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SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Product: Phosphoric Acid 85% Food Grade	**Revision date:** 2026-10-29	**Version:** 1.0	**Brand:** Richest

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

Product name	Phosphoric Acid 85%
Synonyms	Orthophosphoric acid; o-Phosphoric acid
CAS No.	7664-38-2
EC No.	231-633-2
Molecular formula	H3PO4
Molecular weight	98.00 g/mol
Relevant identified uses	Food acidulant, pH regulator, metal surface treatment, phosphate salts production
Uses advised against	None
Company	Richest Group Ltd.
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SECTION 2: Hazards identification

GHS Classification	Acute Toxicity (Oral) Category 4; Skin Corrosion Category 1B; Serious Eye Damage Category 1
Pictogram(s)	GHS05 (Corrosion); GHS07 (Exclamation mark)
Signal word	Danger
Hazard statement(s)	H302 Harmful if swallowed H314 Causes severe skin burns and eye damage H318 Causes serious eye damage

Precautionary statement(s)	P260 Do not breathe dust/fume/gas/mist/vapours/spray P264 Wash thoroughly after handling P270 Do not eat, drink or smoke when using this product P280 Wear protective gloves/protective clothing/eye protection/face protection P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell 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 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/doctor P363 Wash contaminated clothing before reuse P405 Store locked up P501 Dispose of contents/container in accordance with local/regional/national/international regulations
Other hazards	None known.

SECTION 3: Composition/information on ingredients

Component	Phosphoric acid
CAS No.	7664-38-2
EC No.	231-633-2
Classification	Acute Tox. 4; Skin Corr. 1B; Eye Dam. 1; H302, H314, H318
Concentration (%)	85%

SECTION 4: First aid measures

If inhaled	Supply fresh air or oxygen; call for a doctor. Immediately remove any clothing soiled by the product.
In case of skin contact	Immediately wash with water and soap and rinse thoroughly. Seek immediate medical advice.
In case of eye contact	Rinse opened eye for several minutes under running water. Then consult a doctor.
If swallowed	Rinse out mouth. Call a doctor immediately. Do not attempt to neutralize.
Most important symptoms and effects	Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
Indication of any immediate medical attention	Treat symptomatically. Immediate medical attention required.

SECTION 5: Firefighting measures

Suitable extinguishing media	Use fire fighting measures that suit the environment (product is non-

	combustible)
Unsuitable extinguishing media	None known
Special hazards arising from the chemical	Non-combustible. Ambient fire may liberate hazardous vapours (oxides of phosphorus). Hydrogen may form upon contact with metals (danger of explosion).
Advice for firefighters	Wear self-contained respiratory protective device. Contain escaping vapours with water. Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures	Wear protective equipment. Keep unprotected persons away. Do not inhale steams/aerosols.
Environmental precautions	Do not allow to enter sewers/surface or ground water.
Methods and materials for containment and cleaning up	Absorb with liquid-binding material. Clean up affected area. Dispose of the collected material according to regulations.

SECTION 7: Handling and storage

Precautions for safe handling	No special measures required. Open receptacle only under localized extractor facilities. Keep away from foodstuffs, beverages and feed.
Conditions for safe storage, including any incompatibilities	Keep receptacle tightly sealed. Store 85% solution above 21 °C to prevent crystallisation. Store under lock and key with access restricted to technical experts or their assistants. Hygroscopic; keep away from alkali compounds and metals.

SECTION 8: Exposure controls/personal protection

Occupational exposure limit values	Phosphoric acid: TWA 1 mg/m3; STEL 3 mg/m3 (EU IOELV; ACGIH TLV)
Biological limit values	No biological exposure index (BEI) established.
Appropriate engineering controls	Provide localized exhaust ventilation where aerosol or mist is formed.
Eye/face protection	Tightly sealed goggles.
Skin protection	Protective gloves (nitrile rubber, thickness ≥0.11 mm, permeation level ≥ 480 min).
Body protection	Acid resistant protective clothing/suit.
Respiratory protection	Use suitable respiratory protective device (filter E) when aerosol or mist is formed.

Thermal hazards	No specific thermal hazards under normal conditions of use.

SECTION 9: Physical and chemical properties

Physical state	Liquid (fluid)
Colour	Colorless
Odour	Odourless
Melting point / freezing point	21 °C (crystallizes below this temperature)
Boiling point or initial boiling point and boiling range	158 °C
Flammability	Non-flammable
Lower and upper explosion limit / flammability limit	Not applicable (non-flammable)
Flash point	Not applicable
Auto-ignition temperature	Product is not self-igniting
Decomposition temperature	ca. 213 °C (decomposes with loss of water)
pH	< 0.5 (20 °C)
Kinematic viscosity	40 mm2/s at 20 °C
Solubility	Fully miscible with water
Partition coefficient n-octanol/water	Not applicable (inorganic substance)
Vapour pressure	23 hPa (20 °C)
Density and/or relative density	1.71 g/cm3 (20 °C)
Relative vapour density	3.4 (air = 1)
Particle characteristics	Not applicable (liquid)

SECTION 10: Stability and reactivity

Reactivity	Medium strong acid; soluble in water with small release of heat; attacks many metals producing flammable/explosive hydrogen gas
Chemical stability	No decomposition if used according to specifications.
Possibility of hazardous reactions	Hydrogen may form upon contact with metals (danger of explosion). Hygroscopic.
Conditions to avoid	Strong heating

Incompatible materials	Alkali compounds; metals
Hazardous decomposition products	Oxides of phosphorus

SECTION 11: Toxicological information

Acute toxicity - Oral / Inhalation / Dermal	LD50 Oral - Rat - 1,530 mg/kg; LD50 Dermal - Rabbit - 2,740 mg/kg
Skin corrosion/irritation	Corrosive - caustic effect on skin and mucous membranes
Serious eye damage/irritation	Strong caustic effect - causes serious eye damage
Respiratory or skin sensitization	No sensitizing effects known
Germ cell mutagenicity	No mutagenic effects known (Ames test: negative)
Carcinogenicity	Not identified as a carcinogen by IARC, NTP, ACGIH or OSHA
Reproductive toxicity	Not classified (based on available data)
STOT - single exposure	Mist/aerosol may cause respiratory irritation
STOT - repeated exposure	Not classified (based on available data)
Aspiration hazard	Not classified (based on available data)

SECTION 12: Ecological information

Toxicity to fish / daphnia / algae	LC50 - Gambusia affinis (mosquitofish) - 138 mg/l - 96 h
Persistence and degradability	The methods for determining biodegradability are not applicable to inorganic substances
Bioaccumulative potential	Bioaccumulation is not expected (inorganic substance)
Mobility in soil	Infiltrates downward when spilled onto soil (rate greater at lower concentration due to reduced viscosity); dissolves carbonate-based soil material and is neutralized during transport through soil
Other adverse effects	Water hazard class 1 (self-assessment): slightly hazardous for water. Do not allow to enter waters, waste water or soil.

SECTION 13: Disposal considerations

Product disposal methods	Dispose of in compliance with the respective national regulations. Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Recommended cleansing agent: water, if necessary with cleansing agents.

Contaminated packaging	Disposal must be made according to official regulations. Packagings that cannot be cleansed are to be disposed of in the same manner as the

SECTION 14: Transport information

UN Number (ADR/RID, IMDG, IATA)	UN 1805
UN Proper Shipping Name	PHOSPHORIC ACID, SOLUTION
Transport hazard class(es)	8
Packing group	III
Environmental hazards (Marine pollutant)	No
Special precautions for user	Warning: Corrosive substances. Kemler Code: 80. EmS: F-A, S-B. Segregation group: Acids.

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product	EINECS: Listed (231-633-2) / TSCA: All ingredients listed / IECSC: Listed / China Catalog of Hazardous Chemicals 2015: Listed

SECTION 16: Other information

Full text of H-Statements	H302 Harmful if swallowed H314 Causes severe skin burns and eye damage H318 Causes serious eye damage
Revision date	2026-10-29
Version	1.0

Abbreviations and acronyms: CAS: Chemical Abstracts Service; EC: European Commission; EINECS: European Inventory of Existing Commercial Chemical Substances; ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road; RID: Regulation concerning the International Carriage of Dangerous Goods by Rail; IMDG: International Maritime Dangerous Goods; IATA: International Air Transport Association; TWA: Time Weighted Average; STEL: Short Term Exposure Limit; LD50: Lethal Dose 50%; LC50: Lethal Concentration 50%; EC50: Effective Concentration 50%; PBT: Persistent, Bioaccumulative and Toxic; vPvB: very Persistent and very Bioaccumulative; SDS: Safety Data Sheet.

References: ECHA - European Chemicals Agency, https://echa.europa.eu/; IPCS - International Chemical Safety Cards (ICSC), http://www.ilo.org/; HSDB - Hazardous Substances Data Bank; eChemPortal - OECD Global Portal to Information on Chemical Substances; ERG - Emergency Response Guidebook by U.S. DOT.

Disclaimer: The information in this SDS is only applicable to the specified product and is provided in good faith. It is based on the knowledge available to Richest Group Ltd. at the date of issue and is intended to describe the product for the purposes of health, safety and environmental requirements only. It does not constitute any guarantee of the properties of the product. Richest Group Ltd. shall not be held liable for any damage resulting from handling or from contact with the above product.