TECHNICAL DATA SHEET

pH-Ree Fall - World Class Buffering Solution For PH Stability Made From Phosphoric Acid Technical Grade

Technical · 30%

CAS NUMBER	ALLIANCE CODE	GENERATED
7664-38-2	ph-ree-fall-world-class-buffering-solution-for-ph-stability-made-from-phosphoric-acid	2026-08-31

REVISION	REVIEWED
1.2	2026-07-17 · Andre Taki

IDENTITY & COMPOSITION

PRODUCT NAME
pH-Ree Fall - World Class Buffering Solution For PH Stability Made From Phosphoric Acid Technical Grade

ALLIANCE CODE
ph-ree-fall-world-class-buffering-solution-for-ph-stability-made-from-phosphoric-acid

GRADE
Technical

CONCENTRATION
30%

CAS NUMBER
7664-38-2 PubChem

FORMULA
H3O4P PubChem

MOLECULAR WEIGHT
97.995 PubChem

PRODUCT TYPE
solution

SPECIFICATIONS

Not yet characterized — Specification limits for this product have not been published yet. Contact Technical Services for the current specification; lot-specific certificates ship with every order.

PHYSICAL & CHEMICAL PROPERTIES

PROPERTY	VALUE	SOURCE
Appearance	Clear, colorless liquid	Published reference
Form	Liquid	Published reference
Odor	Odorless	Published reference
pH	pH = 1.5 (0.1 N aqueous solution)	Published reference
Density	≈1.18 (30% w/w aqueous solution, 20 °C)	Published reference
Boiling Point	Not characterized for the 30% aqueous solution (water-dominated, ~100 °C)	Published reference
Melting Point	Not characterized for the 30% aqueous solution	Published reference
Vapor Pressure	Not characterized for the 30% aqueous solution (water-dominated)	Published reference
Solubility (water)	Miscible (NIOSH, 2024)	Published reference

Strong acid — density and vapor-pressure values shown are at 20 °C; values shift markedly with concentration and temperature. Reference concentration-temperature curves before specifying equipment.

MATERIALS OF CONSTRUCTION SERVICE ENVELOPE ≈ 30%

MATERIAL	RATING	MAX T (°C)	NOTES	SOURCE
Buna-N (NBR) Elastomer	Poor	—	Hardens and cracks; do not use.	Parker O-ring Chemical Compatibility

MATERIAL	RATING	MAX T (°C)	NOTES	SOURCE
EPDM Elastomer	Good	80	Standard for HCl and H2SO4 gaskets.	Parker O-ring Chemical Compatibility
Viton (FKM) Elastomer	Good	80	Acceptable for HCl gaskets up to 37 %.	Parker O-ring Chemical Compatibility
PTFE Fluoropolymer	Excellent	200	Universal acid compatibility.	Cole-Parmer Chemical Compatibility
PVDF (Kynar) Fluoropolymer	Excellent	120	Excellent for HCl piping at elevated temperature.	Cole-Parmer Chemical Compatibility
Borosilicate Glass Glass Ceramic	Excellent	100	Inert to most strong acids (avoid HF).	Cole-Parmer Chemical Compatibility
Glass (borosilicate) Glass Ceramic	Excellent	100	Inert under all conditions	Cole-Parmer Chemical Compatibility
316 stainless steel Metal	Poor	25	Severe pitting; use only for vapors	Cole-Parmer Chemical Compatibility
Aluminium Metal	Not recommended	—	Reacts to form H2 gas	Cole-Parmer Chemical Compatibility
Carbon Steel Metal	Not recommended	—	Catastrophic corrosion; never use.	Cole-Parmer Chemical Compatibility
Hastelloy C-276 Metal	Excellent	80	Preferred metal for concentrated HCl service.	Haynes International C-276 datasheet
Inconel 625 Metal	Good	60	Acceptable for dilute service	Cole-Parmer Chemical Compatibility
Tantalum Metal	Excellent	100	Best-in-class but expensive	Cole-Parmer Chemical Compatibility

MATERIAL	RATING	MAX T (°C)	NOTES	SOURCE
CPVC Thermoplastic	Excellent	90	Higher-temp variant of PVC.	Cole-Parmer Chemical Compatibility
FRP (vinyl ester) Thermoplastic	Good	60	Common bulk-storage tank material	Cole-Parmer Chemical Compatibility
HDPE Thermoplastic	Excellent	60	Standard tank/drum material for HCl up to 37 %.	Cole-Parmer Chemical Compatibility
PVC Thermoplastic	Excellent	60	Common for piping; verify rating for service > 50 °C.	Cole-Parmer Chemical Compatibility

Ratings reflect the service envelope (concentration × temperature) shown. Always confirm against your specific duty cycle and contact-time before equipment selection. The most cautious rating across overlapping references is shown.

REGULATORY & TRANSPORT

DOT / 49 CFR

UN NUMBER
UN1805 Adjudicated

HAZARD CLASS
8 Adjudicated

PACKING GROUP
III Adjudicated

PROPER SHIPPING NAME
Phosphoric acid solution Adjudicated

GHS / OSHA HAZCOM 2012

SIGNAL WORD
Danger Adjudicated

H-CODES (HAZARD STATEMENTS)
H290, H314 ECHA CLP Annex VI

P-CODES (PRECAUTIONARY STATEMENTS)
P234, P260, P264, P280, P301+P330+P331, P303+P361+P353, P304+P340, P305+P351+P338, P310, P321, P363, P405, P501

Adjudicated

OCCUPATIONAL EXPOSURE LIMITS

OSHA PEL (29 CFR 1910.1000)
1 mg/m³ TWA OSHA 29 CFR 1910.1000

ACGIH TLV
— no canonical

NIOSH REL
1 mg/m³ TWA / 3 mg/m³ STEL

NIOSH IDLH
1000 mg/m³ NIOSH Pocket Guide

NIOSH Pocket Guide

Transport descriptions reflect 49 CFR 172.101 lookup at time of publication. Sourced data: ECHA CLP Annex VI for harmonised classifications, NIOSH Pocket Guide for REL/IDLH, OSHA Z-Tables for PEL. Always verify against the latest regulatory text before shipment-critical decisions.

CATALOG EQUIVALENTS CROSS-REFERENCE VS MAJOR CHEMICAL SUPPLIERS

SIGMA-ALDRICH

SKU	GRADE	CONC.	MATCH	NOTES
345245	ACS Reagent	85%	Exact	ACS Reagent ≥85%

Cross-references are informational. Confirm against the manufacturer's current specification before substitution. Competitor trademarks are property of their respective owners.

APPLICATION GUIDANCE

pH-Ree Fall - World Class Buffering Solution For PH Stability Made From Phosphoric Acid Technical Grade (Technical) is a strong mineral acid used across pH control, metal pickling, food and beverage processing, and chemical synthesis. Grade and concentration determine the appropriate end-use and materials.

- Metal pickling, etching, and surface preparation
- pH adjustment in water and wastewater treatment
- Regeneration of ion-exchange resins
- Chemical manufacturing and synthesis
- Food and beverage processing (food-grade only)

Always add acid to water, never water to acid. Use lined or fluoropolymer piping rated for the concentration; carbon steel is not suitable for dilute acid service.

STORAGE & HANDLING

RECOMMENDED STORAGE

Cool, dry, well-ventilated area in compatible containers (lined steel, HDPE, FRP — verify per concentration). Segregate from bases, oxidizers, metals, and cyanides.

Class-level guidance — not product-specific; the SDS controls.

HANDLING PRECAUTIONS

Use full PPE including face shield, acid-resistant gloves and apron. Add acid to water slowly with stirring; never reverse. Ventilation required.

Class-level guidance — not product-specific; the SDS controls.

INCOMPATIBILITIES

Bases, active metals (aluminium, zinc), cyanides, sulfides, oxidizing agents. Reacts violently with organic anhydrides.

Class-level guidance — not product-specific; the SDS controls.

SHELF LIFE

Consult Technical Services for product-specific shelf life

For full hazard, PPE, and emergency response guidance, refer to the Safety Data Sheet (SDS) for this product. The SDS controls in all cases where guidance differs.

PACKAGING & LOGISTICS

SHIPPING DESCRIPTION (US DOT)

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UN1805, Phosphoric acid solution, 8, PG III
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Sourced from 49 CFR 172.101. Confirm against shipping documents and carrier requirements before tender.

NMFC CLASS	PLACARD	PACKING GROUP
65	Corrosive	PG III

REVISION HISTORY

Last reviewed 2026-07-17 by Andre Taki, DOT Hazmat Specialist.

VERSION	DATE	CHANGE	TRIGGER
1.2	2026-07-22	Canonical data updated: 2 fields changed via the provenance/adjudication pipeline. • `dotSubsidiaryHazardClass` · canonical change (coa.data_provenance / adjudication) • `dotProperShippingName` · canonical change (coa.data_provenance / adjudication)	canonical_change
1.1	2026-07-17	Canonical data re-verified: 5 fields updated against independent vendor SDSs, CLP Annex VI, 49 CFR, and OSHA HazCom 2024 (GHS classification, hazard/precautionary codes, signal word, physical properties as applicable). • `countryOfOrigin` · canonical adjudication / reground (coa.data_provenance) • `ghsClassification` · canonical adjudication / reground (coa.data_provenance) • `hazard_p_codes` · canonical adjudication / reground (coa.data_provenance) • `hsCode` · canonical adjudication / reground (coa.data_provenance) • `physicalProperties` · canonical adjudication / reground (coa.data_provenance)	canonical_change
1.0	2026-05-20	Initial URL-first TDS published from canonical chemistry registry.	initial

This Technical Data Sheet is provided for technical reference. The Safety Data Sheet (SDS) controls in all cases where guidance differs. Values reflect Alliance Chemical canonical data at time of generation; subsequent revisions are recorded in the Revision History above.