



8210 N. Austin Avenue, Morton Grove, IL 60053-3205, U.S.A.
 847-967-6000 800-323-8144
 (Monday - Friday: 7:30 a.m. - 4:00 p.m. CST)

Emergency Contact:
 INFOTRAC 800-535-5053 [U.S.A.]

Name: TBAP - Tetrabutylammonium Phosphate Buffer, 0.5 M, pH 7.5
 Code: 1-680502-200, 1-680502-500, 1-680503-200, 1-680503-500, 1-680504-200, 1-680505-200

.....**SAFETY DATA SHEET**.....

SECTION 1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY.....

- 1.1 Product Identifier
 - Name TBAP - Tetrabutylammonium Phosphate Buffer, 0.5 M, pH 7.5
 - Code 1-680502-200, 1-680502-500, 1-680503-200, 1-680503-500, 1-680504-200, 1-680505-200
- 1.2 Use of Substance/Mixture
 - Use Analytical Ion Pairing Reagent—Quaternary Ammonium Phosphate Buffer
- 1.3 Details of Manufacturer/Supplier
 - Company Regis Technologies, Inc.
 8210 N. Austin Avenue
 Morton Grove, IL 60053
 847-967-6000; 800-323-8144 (toll free)
 Email: cservice@registech.com
 www.registech.com
- 1.4 Emergency Telephone
 - INFOTRAC 800-535-5053 [U.S.A.]

SECTION 2 HAZARDS IDENTIFICATION.....

- 2.1 Classification of the Substance or Mixture
 - GHS Classification
 - Physical Hazards - Not classified
 - Health Hazards

Skin Corrosion / Irritation	Category 3	H316
Serious Eye Damage / Irritation	Category 2B	H320
 - Environmental Hazards - Not classified
 - GHS Label Elements
 - Pictograms or hazard symbols Not applicable
 - Signal Word Warning
 - Hazard Statement
 - H316 Causes mild irritation.
 - H320 Causes eye irritation.
 - Precautionary Statements
 - P264 – Wash thoroughly after handling.
 - P280 – Wear protective gloves/protective clothing/eye protection/face protection.
 - P302+P352 – IF ON SKIN: Wash with plenty of soap and water.
 - P332+P313 – If skin irritation occurs: Get medical advice/attention.
 - P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 - P337+P313 – If eye irritation persists: Get medical advice/attention.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS.....

- Name TBAP - Tetrabutylammonium Phosphate Buffer, 0.5 M, pH 7.5 in water
- Synonyms IPC-TBA-P; N,N,N,-Tributyl-1-butanaminium phosphate (1:1) 0.5M buffer solution in water. TBAP [Ion-Pair Chromatography Reagent]

Some abbreviations used throughout this MSDS: NA=not applicable; NE=not established; U=unknown/unavailable; NL=not listed; N=no; Y=yes.



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Hazardous components

Component	Classification	Concentration
1-Butanaminium, N,N,N-tributyl-, phosphate (1:1) CAS No. 5574-97-0 EC No. 226-947-1 Formula C ₁₆ H ₃₈ NO ₄ P Molecular Mass 339.46	Skin Irr. 3; Eye Irr. 2B; H316, H320	85 %
Water CAS No. 7732-18-5 EC No. 231-791-2 Formula H ₂ O Molecular Mass 18.02	Not classifiable	15 %

For full test of the H-Statements mentioned in this Section, see Section 16.

SECTION 4 FIRST AID MEASURES

- 4.1 Description of first aid measures
 General: Do not attempt to neutralize as it frequently makes matters worse.
 Eye contact: Rinse eyes with plenty of water for at least 15 minutes; lift eyelids occasionally. If irritation persists, consult physician.
 Skin contact: Immediately remove contaminated clothing and shoes, then wash skin with soap and plenty of water. If irritation persists, consult physician.
 Inhalation: Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and keep person warm and at rest. Consult physician.
 Ingestion: Give large amounts of water or milk (two glasses at most). Avoid vomiting. Consult physician immediately.
 Physician note: Symptomatic and supportive care. There is no specific antidote.
- 4.2 Most important symptoms and effects, both acute and delayed.
 Eyes-may cause mild irritation on contact. May be irritating to skin. May be irritating to mucous membranes, if mists are inhaled. May be harmful if ingested. Similar to a diluted soap solution.
- 4.3 Indication of immediate medical attention and special treatment needed.
 No information available.

SECTION 5 FIRE-FIGHTING MEASURES.....

- 5.1 Suitable Extinguishing Media
 Not applicable.
- 5.2 Specific hazards arising from the chemical.
 Non flammable or combustible.
 Explosion potential--none.
 Avoid inhalation of material or combustion by-products.
 Emits toxic fumes under fire conditions: May emit carbon oxides, nitrogen oxides, phosphorus oxides
- 5.3 Advice for fire-fighters
 Wear protective clothing to prevent contact with skin and eyes.

SECTION 6 ACCIDENTAL RELEASE MEASURES

- 6.1 Personal precautions, protective equipment, and emergency procedures
 For non-emergency personnel - Avoid material contact or inhalation of mists. Evacuate unnecessary personnel from area.
 For emergency responders – Wear protective clothing to prevent contact with skin and eyes. Avoid breathing mists. See Section 8.3.

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- 6.2 Environmental precautions
Prevent material from entering drains.
- 6.3 Methods of clean up
Ventilate area. Isolate spilled material. Absorb using chemically compatible spill pillows, or similar adsorbent material. Sweep up, if not absorbed in pillow, seal in appropriate hazardous waste container, and hold for proper waste disposal. Keep out of water supplies and sewers. Wash spill site after material pickup is complete.

SECTION 7 HANDLING AND STORAGE

- 7.1 Safe Handling Precautions
Wear suitable protective equipment to avoid contact with skin, eyes, or inhalation of mists. May be irritating to skin or eyes. May be irritating to mucous membranes, if mists are inhaled. May be harmful if ingested. Wash after handling.
- 7.2 Storage Conditions
Store tightly closed in a cool, dry, and well ventilated place. Store away from incompatible materials (See Section 10.).

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

- 8.1 Control parameters
Exposure limits: Tetrabutylammonium Phosphate Buffer, 0.5 M, pH 7.5 (5574-97-0) –
 OSHA – PEL No limits established.
 ACGIH – TLV No limits established.

 Environmental Do not empty into drains.
- 8.2 Appropriate engineering controls
Safety shower and eye wash
Local exhaust and mechanical ventilation required. Hood recommended. Fume scrubber.
- 8.3 Personal protection
 Eye/Face Chemical safety eyewear or goggles.
 Hand Compatible chemical-resistant gloves.
 Respiratory If exposure to mists likely: NIOSH/MSHA approved respirator for organic vapor and mists.
 Dermal (not hand) Protective Clothing (e.g., lab coat)
 Hygiene Avoid inhalation, ingestion; contact with eyes, skin, and clothing; Avoid prolonged or repeated exposure. Wash thoroughly after handling.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

- 9.1 Information on physical and chemical data

Form	liquid	
Appearance	clear colorless solution	
Odor	odorless to slight amine	
Odor threshold	Not available	
pH	7.5	
Melting/freezing point	Not established	
Boiling point: (1atm):	slightly above 100°C (211°F) @ 1.013 hPa	
Flammability (liquid)		
Flash Point	Not applicable	
Flammable limits (%v/v)	UEL (upper explosive limit)	Not applicable
	LEL (lower explosive limit)	Not applicable
Autoignition temperature	Not applicable	
Decomposition temperature	Not applicable	
OSHA Flammability Class	Not applicable	

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Evaporation Rate (BuAc = 1.0)	> 1.0
Vapor pressure (mmHg)	Not available
Vapor density (air=1):	Not available
Relative density (g/cm ³)	1.0
Water Solubility	miscible in water
Water reactive	No
Solubility (other)	Not available
Partition coefficient: N-octanol/water	Kow (Pow) = Not available
Viscosity	Not available

SECTION 10 **STABILITY AND REACTIVITY**

- 10.1 Reactivity
Stable.
- 10.2 Chemical Stability
Stable is stored protected from heat and ignition sources.
- 10.3 Possibility of hazardous reactions
Oxidizers (should be tested for compatibility prior to use)
Chlorine gas, chloramines, hypochlorites, sodium hypochlorite (exothermic, explosive)
- 10.4 Conditions to avoid
Avoid incompatibilities.
Keep out of water supplies and sewers.
- 10.5 Incompatible materials
Strong oxidizers. Chlorine gas, chloramines, hypochlorites, sodium hypochlorite (exothermic, explosive)
- 10.6 Hazardous decomposition products
Combustion carbon oxides, nitrogen oxides, phosphorus oxides

SECTION 11 **TOXICOLOGICAL INFORMATION**.....

11.1 Toxicological Information		
Acute toxicity	Oral LD50	No data available
	Inhalation LC50	No data available
	Dermal LD50	No data available
	Other acute toxicity	No data available
Skin corrosion/irritation		No data available
Serious eye damage/irritation		No data available
Respiratory irritation		No data available
Respiratory or skin sensitization		No data available
Germ cell mutagenicity		No data available
Carcinogenicity		
IARC	No data available.	
NTP	No data available	
OSHA	No data available	
Reproductive toxicity (Including teratogenicity)	No data available	
Specific target organ toxicity (STOT)		
STOT-single exposure	No data available	
STOT-repeated exposure	No data available	
Aspiration hazard	No data available	
RTECS Number	Not available	

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11.2 Further Information

Potential health effects

Eye	May be irritating.
Skin	May be irritating.
Inhalation	May be irritating to mucous membranes and respiratory tract. May be harmful.
Ingestion	May be harmful.
Symptoms	See above route. Pre-existing conditions that may be aggravated: not determined.
Miscellaneous	This chemical in a 0.5 M aqueous solution has properties similar to a soap solution.

SECTION 12..... **ECOLOGICAL INFORMATION**.....

12.1 Ecotoxicity	No data available for this product.
12.2 Persistence and degradability	No data available for this product.
12.3 Bioaccumulative potential	BCF = No data available for this product.
12.4 Motility in soil	Log Kow = No data available for this product.
12.5 Other adverse effects	No data available for this product.

SECTION 13..... **DISPOSAL CONSIDERATIONS**.....

13.1 Disposal methods

U . S. EPA Waste Codes	None
Waste Characterization (per U. S. regulations)	RCRA Hazard Class (40CFR 261): none Generator is responsible for proper waste characterization. NOTE: U. S. state hazardous waste regulations may differ considerably from U. S. Federal ones.
Waste Disposal	That which cannot be recovered or recycled, should be disposed of in accordance with all applicable international, national, regional, state, and local laws. Do NOT dump into any sewer, on ground, or into any body of water.

SECTION 14..... **TRANSPORT INFORMATION**

- 14.1 DOT (US) – Not a dangerous goods.
- 14.2 IMDG/IMO – Not a dangerous goods.
- 14.3 IATA – Not a dangerous goods.
- 14.4 TDG – Not a dangerous goods.

SECTION 15..... **REGULATORY INFORMATION**.....

15.1 Safety, health and Environmental regulations specific for the product in question.

NFPA: H0 F0 R0 HMIS: H0 F0 PH0

15.2 Chemical Inventory Lists

.....	Tetrabutylammonium Phosphate Buffer, 0.5 M, pH 7.5
.....(Tetrabutylammonium Dihydrogen Phosphate)
CAS Number	5574-97-0
TSCA:	Y
EINECS:	Y
Number.....	226-947-1
CERCLA [Section 103 (40 CFR 302.4)]:	NL
RQ (lbs)	NA
RCRA Waste Code.....	NA
OSHA Process Safety [29 CFR 1910.119]:.....	NL
TQ (lbs).....	NA
State Lists:.....	NL
States	NL
On CA 65 Significant Risk Level.....	NL

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15.2 Chemical Inventory Lists

..... Tetrabutylammonium Phosphate Buffer, 0.5 M, pH 7.5
 (Tetrabutylammonium Dihydrogen Phosphate Buffer)
 CAS Number 5574-97-0
 Clean Air Act
 [Section 112r (40 CFR 68)]:..... NL
 TQ (lbs)..... NA
 Contains Ozone Depleters (Class I or Class II)..... N
 [Section 103 (40 CFR 302.4)]:..... NL
 SARA Title III Notification [40 CFR 302.4]:
 Section 302/304 (EHS) Ingredient [40 CFR 355.3] NL
 TPQ (lbs) NA
 RQ (lbs) NA
 Section 313 Ingredient [40 CFR 372.65] NL
 SARA Hazards Acute N Chronic N Fire N Pressure N Reactivity N

SECTION 16 **OTHER INFORMATION**.....

16.1 Full text of H-Statements referred to under Section 2 and 3.

Eye Irr.	Eye irritation
H316	Causes mild irritation.
H320	Causes eye irritation.
Skin Irr.	Skin irritation

The above information is believed to be correct to the best of our present state knowledge, but does not purport to be all-inclusive and shall be used only as a guide. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.

This is the last page of this MSDS.