



8210 N. Austin Avenue, Morton Grove, IL 60053-0519, 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: 1-Pentanesulfonate, Sodium Salt (0.5 M, pH 1.3 in HPLC grade water)
 Code: 405025, 405035

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

SECTION 1 PRODUCT IDENTIFICATION

Name: 1-Pentanesulfonate, Sodium Salt (0.5 M, pH 1.3 in HPLC grade water)
 Code: 405025, 405035

SECTION 2 COMPOSITION, INFORMATION ON INGREDIENTS

Synonyms S5 Ion Pair Cocktail; S5 Ion Pair Reagent; S5 Ion Pair Concentrate; 1-Pentylsodiumsulfonate
 CAS #: 22767-49-3 (1-Pentanesulfonate, Sodium Salt) MF: CH₃(CH₂)₄SO₃Na or C₅H₁₁NaO₃S

Ingredients	Concentration (%/wt)
1-Pentanesulfonate, Sodium Salt (22767-49-3)	8.0 %
Phosphoric Acid (7664-38-2)	7.0 %
Water (7732-18-5).....	85.0 %

SECTION 3 HAZARDS IDENTIFICATION

Precautionary Statements See Sections 8 and 11 for further details.
 Corrosive. Causes burns.

..... **Emergency Overview**

NFPA Ratings (Scale 0-4); Health = 3; Fire = 1; Reactivity = 0;

Liquid: clear, colorless, odorless

Corrosive. Causes burns. Aqueous acidic solution.

The properties of this material have not been fully investigated. Use due caution in handling and use of this material.

Corrosive to eyes, skin, mucous membranes, and upper respiratory tract. Harmful if inhaled, ingested, or in contact with eyes or skin.

Emits toxic fumes under fire conditions—potential chemical or thermal decomposition products: carbon oxides, sulfur oxides, nitrogen oxides, phosphine, phosphorus oxides

Standard chemical handling precautions: Avoid ingestion or breathing mists. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling.

Target organs: blood, liver, bone marrow, skin, eyes

See Sections 4, 5, 6, 8, 9, and 10.

Other Hazard Information

This compound has not fully been tested for toxicological, irritation, or similar tendencies.

Primary Route(s) of Entry: Inhalation, Ingestion, Eye or Skin contact

Eye: Can cause burns. May cause severe irritation, dryness, conjunctivities, and corneal damage .

Skin: Can cause burns, moderate irritation, and possible dryness.

Inhalation: Can cause irritation to mucous membranes and upper respiratory system. May be harmful or fatal if inhaled in large quantities due to spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema.

Ingestion: Can cause burns. May be harmful.

Acute: See above route.

Chronic: See above route.

Symptoms: Results of overexposure may include irritation, burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, vomiting, dizziness, and/or suffocation.

Pre-existing conditions that may be aggravated: skin, or eye conditions.

See Section 11 for additional toxicological data.

Abbreviations: NA—not applicable; NE—not established; U—unknown/not available; NL—not listed; N—no; Y—yes.; NDA-No data available.



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SECTION 4 FIRST AID MEASURES

Eye contact: Immediately flush eyes with copious amounts of water or eyewash solution 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 copious amounts of water. If irritation persists, consult physician.
 Inhalation: Remove to fresh air. If not breathing, give artificial respiration and keep person warm and at rest. If breathing is difficult, give oxygen; consult physician.
 Ingestion: Wash out mouth with water provided person is conscious; consult physician, and give 2-4 cupfuls of milk or water; DO NOT induce vomiting without first consulting physician.
Wash contaminated clothing before reuse. Discard contaminated footwear.
 Physician note: Symptomatic and supportive care. No specific antidote, however can be treated same as hydrochloric acid exposure or as a potential allergic reaction. Treatment based on physician judgment in response to reactions of the patient.

SECTION 5 FIRE FIGHTING MEASURES

Flash Point:	NA	Method:	NA	Autoignition:	NE
OSHA Flammability Class:	NA			Explosion Limits:	upper: NE lower: NE
NFPA:	See Section 3 Hazards Identification <i>Emergency Overview</i> above.				

Extinguishing Media

Water spray, carbon dioxide, dry chemical powder, or appropriate foam.

Special Fire Fighting Procedures

None

Standard Fire and Explosion Hazards

Low fire potential--This is a dilute acidic aqueous solution, however with enough heat, the organics in the solution may burn after the water has evaporated.

This chemical is not expected to have an explosion potential.

Avoid inhalation of material or combustion by-products.

Unusual Fire and Explosion Hazards

Corrosive, acidic solution. Sufficient water added may dilute the solution to neutral.

Hazardous Combustion or Decomposition Products

carbon monoxide, carbon dioxide, sulfur oxides, nitrogen oxides, phosphorous oxides, phosphine

SECTION 6 ACCIDENTAL RELEASE MEASURES

Negligible fire hazard.

Evacuate unnecessary people from area. Isolate spilled material.

Ventilate area.

Wear protective clothing to prevent contact with skin and eyes (lab coat, gloves, and safety glasses).

Wear NIOSH/MSHA approved respirator for organic/acid gas, dust, and mists to prevent inhalation of mists.

Contain and recover material when possible.

Use chemically compatible spill pillows, or similar adsorbent material.

Sweep up, seal in appropriate hazardous waste container, and hold for proper waste disposal.

Avoid raising contaminated dust.

Wash spill site after material pickup is complete.

Standard chemical precautions: Keep out of water supplies and sewers.

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SECTION 7 HANDLING AND STORAGE.....

General Handling Measures

See Section 8 Below.

General Storage Measures

Store in a cool, dry place with adequate ventilation, in a corrosive storage area.

Special Storage Instructions

Do not store in metal containers.

Special Handling Instructions

Use appropriate precautions for handling corrosives.

SECTION 8 EXPOSURE CONTROLS, PERSONAL PROTECTION.....

Airborne Exposure Limits

		TWA (8H)		STEL		Ceiling Limit		Ceiling (skin)	
		ppm	mg/m ³	ppm	mg/m ³	ppm	mg/m ³	ppm	mg/m ³
1-Pentanesulfonate, Na Salt 5324-84-5	OSHA PEL	NE	NE	NE	NE	NE	NE	NE	NE
	ACGIH - TLV	NE	NE	NE	NE	NE	NE	NE	NE
Phosphoric Acid 7664-38-2	OSHA PEL/VEL	NE	8	NE	NE	NE	NE	NE	NE
	ACGIH - TLV	NE	1	NE	3	NE	NE	NE	NE

Special/Other Control Measures

Odor threshold: NE

Personal Protective Equipment (PPE)

OSHA/ANSI approved chemical safety eyewear or goggles

Compatible chemical-resistant gloves

Wear NIOSH/MSHA approved respirator for organic/acid gas, dust, and mists to prevent inhalation.

Protective Clothing (e.g., lab coat)

Other Standard Safety Equipment and Engineering Preventive Measures

Safety shower and eye wash

Mechanical exhaust required. Hood recommended.

General Precautions and Handling Measures

Avoid ingestion, inhalation and contact with eyes, skin, and clothing.

Avoid prolonged or repeated exposure. Wash thoroughly after handling.

Wash contaminated clothing before reuse. Discard contaminated footwear.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Chemical Family: Ion Pairing Agent

Use: Analytical Reagent

Appearance, Odor, and Other Properties

Appearance: clear, colorless solution

Odor: odorless

MP: NA

Water Reactive: no

bp (1atm): NE

Water Solubility: completely soluble

FW: NE

Specific Gravity (H₂O = 1.0): 1.04

VP (mmHg): NE

Vapor Density (air=1): NA

% Volatiles: NE

Vap. Rate (BuAc = 1.0): NA

pH: 1.3

Refractive Index (n_D²⁰): NA

Soluble in Organic Solvents: not determined.

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SECTION 10 STABILITY AND REACTIVITY

Stability

Stable

Incompatibilities

- Oxidizers
- Strong Bases
- Finely powdered metals

Precautions

- Avoid incompatibilities.
- Keep out of water supplies and sewers.

Hazardous Combustion or Decomposition Products

carbon monoxide, carbon dioxide, sulfur oxides, nitrogen oxides, phosphorus oxides, phosphine

Hazardous Polymerization

None

SECTION 11 TOXICOLOGICAL INFORMATION.....

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
 RTECS #: CAS #:

Not listed	S5 Ion Pair Reagent	
Not listed	1-Pentanesulfonate, Sodium Salt	22767-49-3
SZ6400000	Phosphoric Acid	7664-38-2

Only selected Registry of Toxic Effects of Chemical Substances data (RTECS) is presented here.

 See actual entry in RTECS for complete information.

Irritation Data

	skn	eye
S5 Ion Pair Reagent	NDA	NDA
1-Pentanesulfonate, Sodium Salt	NDA	NDA
Phosphoric Acid	skn rbt 595 mg/24H sev	eye rbt 119 mg sev

Toxicity Data

	orl	skn	other
S5 Ion Pair Reagent	NDA	NDA	NDA
1-Pentanesulfonate, Sodium Salt	NDA	NDA	NDA
Phosphoric Acid	orl rat LD50 1530 mg/kg	skn rbt LD50 2740 mg/kg	ihl rat LC50 7850 mg/kg/1H

Carcinogenicity

	OSHA	IARC	NTP	ACGIH	NIOSH	Notes
S5 Ion Pair Reagent	NL	NL	NL	NL	NL	None.
1-Pentanesulfonate, Sodium Salt	NL	NL	NL	NL	NL	None.
Phosphoric Acid	NL	NL	NL	NL	NL	None.

Teratogenicity and Reproductive Effects

No data available.

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Mutagenicity

No data available.

Miscellaneous

Lab studies of anionic surfactants in contact with rabbit eyes indicated that they may cause temporary eye damage which healed within one to tow days. Dust of sulfonates may cause respiratory allergies, but there is no data on sulfonate solutions.

Acute and Chronic Effects

See specific route responses in Section 3 **Hazards Identification** above.

SECTION 12 ECOLOGICAL INFORMATION.....

Ecotoxicity

No data available.

Environmental Fate

No data available on 1-Pentantsulfonate, sodium salt.

The acidity of the phosphoric acid in the solution may be reduced readily by natural water hardness minerals, but the phosphate may persist indefinitely. During transport through the soil, phosphoric acid will dissolve some of the soil material, in particular, carbonate-based materials. The acid will be neutralized to some degree with adsorption of the proton and phosphate ions also possible. However, significant amounts of acid will remain for transport down toward the groundwater table.

Other

Phosphoric acid is dangerous to aquatic life in high concentrations.

Standard Chemical Precautions

Keep out of air, water, and soil

SECTION 13 DISPOSAL CONSIDERATIONS.....

That which cannot be recovered or recycled, should be disposed of in accordance with all applicable Federal, State, and local environmental regulations.

RCRA waste code(s): D002 RCRA Hazard Class (40CFR 261): Corrosive

SECTION 14 TRANSPORT INFORMATION.....

Ship in accordance with all applicable local, State, Federal, and International transportation regulations.

The following is a summary only. Check regulations for complete information:

U. S. Department of Transportation (49CFR171.101)
 Shipping Name: Corrosive Liquids, n.o.s. (phosphoric acid)
 Hazard Class or Division: 8
 ID Number: UN1760
 Packing Group: III
 Labeling: Corrosive

SECTION 15 REGULATORY INFORMATION

Reviews, Standards, and Regulations

..... S5 Ion Pair . 1-Pentanesulfonate Phosphoric..... Water
 Reagent..... Sodium SaltAcid
 CAS number NL22767-49-3..... 7664-38-2.....7732-18-5
 TSCA:..... NLY..... Y..... Y.....
 This compound is sold strictly for FDA or research and development use.

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..... S5 Ion Pair . 1-Pentanesulfonate Phosphoric..... Water
 Reagent..... Sodium SaltAcid

CAS number NL22767-49-3.....7664-38-2.....7732-18-5

EINECS:..... NL Y Y Y

Number NA245-208-4 231-633-2..... 231-791-2

CERCLA [Section 103 (40 CFR 302.4)]: NL NL Y NL

RQ (lbs)..... NA NA 5,000 NA

RCRA Waste Code NA NA NA NA

OSHA Process Safety [29 CFR 1910.119]: NL NL NL NL

TQ (lbs)..... NA NA NA NA

Clean Air Act
 [Section 112r (40 CFR 68)]: NL NL NL NL

TQ (lbs)..... NA NA NA NA

Contains Ozone Depleters (Class I or Class II)..... N N N N

State Lists: NL NL Y NL

States..... NL NL CA, FL, MA NL

..... MN, NJ, PA

On CA 65 Significant Risk Level NL NL NL NL

SARA Title III Notification [40 CFR 302.4]:
 Section 302/304 (EHS) Ingredient
 [40 CFR 355.3]..... NL NL NL NL

TPQ (lbs)..... NA NA NA NA

RQ (lbs)..... NA NA NA NA

Section 313 Ingredient [40 CFR 372.65]..... NL NL Y NL

Hazard Classes

Sara	Acute	Chronic	Fire	Pressure	Reactivity
Title III	Y	Y	N	N	N
	Health	Flammability	Reactivity	Special Hazards	
NFPA	3	1	0	None	
HMIS	3	1	0	None	

Risk Phrases:

Caution: The properties of this material have not been fully investigated.

Corrosive

R20/21/22.....Harmful by inhalation, in contact with skin and if swallowed

R34.....Causes burns.

R40.....Possible risk of irreversible effects.

Safety Phrases:

S24/25.....Avoid contact with skin and eyes.

S26.....In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S27.....Take off immediately all contaminated clothing.

S36/37/39.....Wear suitable protective clothing, gloves, and eye/face protection.

SECTION 16OTHER INFORMATION

Miscellaneous

The health and toxicological hazards of this compound have not been fully investigated; therefore, this substance must be handled only by, or under close supervision of those qualified in the handling and use of potentially hazardous substances.

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This MSDS was revised as follows:

This is a new MSDS format. Consider all sections to contain new information.

Disclaimer

The above information is believed to be correct, but does not purport to be all-inclusive and shall be used only as a guide. Regis Technologies, Inc., does not guarantee said information is accurate or complete, *nor shall any of this information constitute a warranty, whether expressed or implied, as to the safety of the goods, the merchantability of the goods, or the fitness of the goods for a particular purpose.* Adjustment may be required to conform to the actual conditions of usage. Regis Technologies, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product, nor for the results obtained, or for incidental or consequential damage arising from the use of these data. No freedom from infringement of any patent, copyright or trademark is to be inferred.

Approved of by: MBF

This is the last page of this MSDS.

Reviewed and re-approved of with minor changes to the footer abbreviations, format, and removal of the R-Codes.
 by: Jon Pilli

08/05/2008