



Material Safety Data Sheet

Section 1. Product and Company Identification

Product Name	Tetra-n-butylammonium hydrogen sulfate	Product Code	1.18312
Manufacturer	EMD Chemicals Inc. P.O. Box 70 480 Democrat Road Gibbstown, NJ 08027 Prior to January 1, 2003 EMD Chemicals Inc. was EM Industries, Inc. or EM Science, Division of EM Industries, Inc.	Effective Date	11/3/2005
		Print Date	12/15/2005

For More Information Call

856-423-6300 Technical Service
Monday-Friday: 8:00 AM - 5:00 PM

In Case of Emergency Call

800-424-9300 CHEMTREC (USA)
613-996-6666 CANUTEC (Canada)
24 Hours/Day: 7 Days/Week

Synonym None.

Material Uses Analytical reagent.

Chemical Family Organic

Section 2. Composition and Information on Ingredients

Component	CAS #	% by Weight
Tetra-n-butylammonium hydrogen sulfate	32503-27-8	100

Section 3. Hazards Identification

Physical State and Appearance Solid.

Emergency Overview CAUTION!
MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.
To the best of our knowledge, the toxicological properties of this product have not been thoroughly investigated.

Routes of Entry Dermal contact. Eye contact. Inhalation. Ingestion.

Potential Acute Health Effects

Eyes May be hazardous in case of eye contact (irritant).

Skin May be hazardous in case of skin contact (irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Inhalation May be hazardous in case of inhalation (lung irritant).

Ingestion Ingestion may cause gastrointestinal irritation and diarrhea.

Potential Chronic Health Effects

Carcinogenic Effects This material is not known to cause cancer in animals or humans.

Additional information See Toxicological Information (section 11)

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Medical Conditions Aggravated by Overexposure: Repeated or prolonged exposure is not known to aggravate medical condition.

Section 4. First Aid Measures

Eye Contact Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.

Skin Contact In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Inhalation If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Section 5. Fire Fighting Measures

Flammability of the Product May be combustible at high temperature.

Auto-ignition Temperature Not available.

Flash Points Not available.

Flammable Limits Not available.

Products of Combustion These products are carbon oxides (CO, CO₂), nitrogen oxides (NO, NO₂...), sulfur oxides (SO₂, SO₃...).

Fire Hazards in Presence of Various Substances Not available.

Explosion Hazards in Presence of Various Substances Risks of explosion of the product in presence of static discharge: No.
Risks of explosion of the product in presence of mechanical impact: No.

Fire Fighting Media and Instructions SMALL FIRE: Use DRY chemical powder.
LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Protective Clothing (Fire) Be sure to use an approved/certified respirator or equivalent.

Special Remarks on Fire Hazards Not available.

Special Remarks on Explosion Hazards Not available.

Section 6. Accidental Release Measures

Small Spill and Leak Use appropriate tools to put the spilled solid in a convenient waste disposal container.

Large Spill and Leak Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

Spill Kit Information No specific spill kit required for this product.

Section 7. Handling and Storage

Handling Avoid contact with eyes, skin and clothing. Avoid breathing dust. Keep container closed. Do not ingest.

Storage Keep container in a cool, well-ventilated area.

Section 8. Exposure Controls/Personal Protection

Engineering Controls Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection

Eyes Splash goggles.

Body Lab coat.

Respiratory Dust respirator. Be sure to use an approved/certified respirator or equivalent.

Hands Gloves.

Feet Not applicable.

Protective Clothing (Pictograms)



Personal Protection in Case of a Large Spill Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Product Name Exposure Limits

Tetra-n-butylammonium hydrogen sulfate Not available.

Section 9. Physical and Chemical Properties

Odor Not available.

Color White.

Physical State and Appearance Solid.

Molecular Weight 339.54 g/mole

Molecular Formula C16H37NO4S

pH Not available.

Boiling/Condensation Point Not available.

Melting/Freezing Point 169 to 172°C (336.2 to 341.6°F)

Specific Gravity Not available.

Vapor Pressure Not available.

Vapor Density Not available.

Odor Threshold	Not available.
Evaporation Rate	Not available.
LogK_{ow}	Not available.
Solubility	Soluble in water.

Section 10. Stability and Reactivity

Stability and Reactivity	The product is stable.
Conditions of Instability	Not available.
Incompatibility with Various Substances Rem/Incompatibility	Not available.
Hazardous Decomposition Products	carbon oxides (CO, CO ₂) , nitrogen oxides (NO, NO ₂ ...) , sulfur oxides (SO ₂ , SO ₃ ...)
Hazardous Polymerization	Will not occur.

Section 11. Toxicological Information

RTECS Number:	Tetra-n-butylammonium hydrogen sulfate	Not available.
Toxicity	LD ₅₀ : Not available. LC ₅₀ : Not available.	
Chronic Effects on Humans	Not available.	
Acute Effects on Humans	May be hazardous in case of eye contact (irritant). May be hazardous in case of skin contact (irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. May be hazardous in case of inhalation (lung irritant).	
Synergetic Products (Toxicologically)	Not available.	
Irritancy	<u>Draize Test</u> : Not available.	
Sensitization	Not available.	
Carcinogenic Effects	This material is not known to cause cancer in animals or humans.	
Toxicity to Reproductive System	Not available.	
Teratogenic Effects	Not available.	
Mutagenic Effects	Not available.	

Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Toxicity of the Products of Biodegradation	The product itself and its products of degradation are not toxic.

Section 13. Disposal Considerations

EPA Waste Number	Not available.
Treatment	Material does not have an EPA Waste Number and is not a listed waste, however consultation with a permitted waste disposal site (TSD) should be accomplished. Always contact a permitted waste disposal (TSD) to assure compliance with all current local, state, and Federal Regulations..

+ Section 14. Transport Information

DOT Classification	Proper Shipping Name: CHEMICALS, N.O.S. RQ: Not applicable.
TDG Classification	Not available.
IMO/IMDG Classification	Proper Shipping Name: CHEMICALS, N.O.S. RQ: Not applicable.
ICAO/IATA Classification	Proper Shipping Name: CHEMICALS, N.O.S. RQ: Not applicable.

Section 15. Regulatory Information

U.S. Federal Regulations	TSCA 8(b) inventory: Tetra-n-butylammonium hydrogen sulfate SARA 302/304/311/312 extremely hazardous substances: No products were found. SARA 302/304 emergency planning and notification: No products were found. SARA 302/304/311/312 hazardous chemicals: No products were found. SARA 311/312 MSDS distribution - chemical inventory - hazard identification: No products were found. SARA 313 toxic chemical notification and release reporting: No products were found. Clean Water Act (CWA) 307: No products were found. Clean Water Act (CWA) 311: No products were found. Clean air act (CAA) 112 accidental release prevention: No products were found. Clean air act (CAA) 112 regulated flammable substances: No products were found. Clean air act (CAA) 112 regulated toxic substances: No products were found.
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WHMIS (Canada)	Not controlled under WHMIS (Canada). CEPA DSL: Tetra-n-butylammonium hydrogen sulfate This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all required information.
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International Regulations

EINECS	Tetra-n-butylammonium hydrogen sulfate	251-068-5
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DSCL (EEC)	R36/37/38- Irritating to eyes, respiratory system and skin.
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International Lists

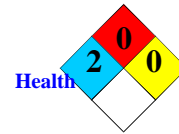
China: Tetra-n-butylammonium hydrogen sulfate

State Regulations	No products were found.
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California prop. 65: No products were found.

Section 16. Other Information

**National Fire
Protection
Association
(U.S.A.)**



Fire Hazard

Reactivity

Specific Hazard

**Changed Since Last
Revision**



Notice to Reader

The statements contained herein are based upon technical data that EMD Chemicals Inc. believes to be reliable, are offered for information purposes only and as a guide to the appropriate precautionary and emergency handling of the material by a properly trained person having the necessary technical skills. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use, storage and disposal of these materials and the safety and health of employees and customers and the protection of the environment. EMD CHEMICALS INC. MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE, WITH RESPECT TO THE INFORMATION HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS.