

1. Product and Company Identification

Product Code:	0003510		
Product Name:	MUCOSOL		
Company Name:	Alpha-Tec Systems, Inc.	Phone Number:	
	1311 SE Cardinal Ct Suite 170		1 (360)260-2779
	Vancouver, WA 98683		
Web site address:	Alphatecsystems.com		
Email address:	Regulatory@Alphatecsystems.com		
Emergency Contact:	INFOTRAC		
	International		00-1- (352)323-3500
Information:	North America		1 (800)535-5053
Intended Use:	For Laboratory Use Only		
Product List	MUCOSOL, Product Code Also Applies To: 0003510.		

2. Hazards Identification

Skin Corrosion/Irritation, Category 3

GHS Signal Word:	Warning
GHS Hazard Phrases:	H316 - Causes mild skin irritation.
GHS Precaution Phrases:	No phrases apply.
GHS Response Phrases:	P332+313 - If skin irritation occurs, get medical advice/attention.
GHS Storage and Disposal Phrases:	No phrases apply.
Inhalation:	Causes respiratory tract irritation.
Skin Contact:	May be harmful if absorbed through the skin. Causes skin irritation.
Eye Contact:	Causes eye irritation.
Ingestion:	May cause irritation of the digestive tract. Harmful if swallowed. May cause central nervous system depression.

3. Composition/Information on Ingredients

CAS #	Hazardous Components (Chemical Name)	Concentration	RTECS #
3483-12-3	Threitol, 1,4-dithio- {(R*,R*)-1,4-Dimercaptobutane-2,3-diol}	1000. -10000. PPM	EK1610000
7647-01-0	Hydrochloric acid {Hydrogen chloride}	0.72 -0.76 %	MW4025000

4. First Aid Measures

Emergency and First Aid Procedures:

In Case of Inhalation:	Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear. If inhaled, remove to fresh air. Get medical aid.
In Case of Skin Contact:	Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid if irritation develops and persists. Wash clothing before reuse.
In Case of Eye Contact:	Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation develops, get medical aid. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.
In Case of Ingestion:	Do NOT induce vomiting. Get medical aid if irritation or symptoms occur. If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.
Note to Physician:	Treat symptomatically and supportively.

5. Fire Fighting Measures

Flash Pt:	No data.	
Explosive Limits:	LEL: No data.	UEL: No data.
Autoignition Pt:	No data.	
Suitable Extinguishing Media:	Use water spray, dry chemical, carbon dioxide, or appropriate foam.	
Fire Fighting Instructions:	As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Dusts at sufficient concentrations can form explosive mixtures with air. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.	
Flammable Properties and Hazards:	No data available.	
Hazardous Combustion Products:	No data available.	

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled:	Use proper personal protective equipment as indicated in Section 8. Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Avoid generating dusty conditions. Provide ventilation. Do not let this chemical enter the environment. Clean up spills immediately, observing precautions in the Protective Equipment section. Approach spill from upwind.
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7. Handling and Storage

Precautions To Be Taken in Handling:	Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation. Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Keep container tightly closed. Avoid use in confined spaces.
Precautions To Be Taken in Storing:	Store in a cool, dry place. Storage under a nitrogen blanket has been recommended. Store in air tight containers. Refrigerate upon arrival below 4°C/39°F. Supplier recommends temperatures below -20°C for long-term storage.

8. Exposure Controls/Personal Protection

CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
3483-12-3	Threitol, 1,4-dithio- {(R*,R*)-1,4-Dimercaptobutane-2,3-diol }	No data.	No data.	No data.
7647-01-0	Hydrochloric acid {Hydrogen chloride}	CEIL: 5 ppm	CEIL: 2 ppm)	No data.
Respiratory Equipment (Specify Type):	Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.			
Eye Protection:	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.			
Protective Gloves:	Wear appropriate protective gloves to prevent skin exposure.			
Other Protective Clothing:	Wear appropriate protective clothing to prevent skin exposure.			
Engineering Controls (Ventilation etc.):	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.			

9. Physical and Chemical Properties

Physical States:	[] Gas [X] Liquid [] Solid	
Appearance and Odor:	Colorless/Clear. sulfurous odor.	
pH:	No data.	
Melting Point:	No data.	
Boiling Point:	No data.	
Flash Pt:	No data.	
Evaporation Rate:	No data.	
Flammability (solid, gas):	No data available.	
Explosive Limits:	LEL: No data.	UEL: No data.
Vapor Pressure (vs. Air or mm Hg):	No data.	
Vapor Density (vs. Air = 1):	No data.	
Specific Gravity (Water = 1):	~ 1.00	
Solubility in Water:	No data.	
Octanol/Water Partition Coefficient:	No data.	
Autoignition Pt:	No data.	
Decomposition Temperature:	No data.	
Viscosity:	No data.	

10. Stability and Reactivity

Stability:	Unstable [] Stable [X]
Conditions To Avoid - Instability:	dust generation, Exposure to moist air or water, Light, Exposure to air.
Incompatibility - Materials To Avoid:	Strong oxidizing agents, Strong acids.
Hazardous Decomposition or Byproducts:	oxides of phosphorus, sodium oxide. Carbon monoxide, oxides of sulfur.
Possibility of Hazardous	Will occur [] Will not occur [X]

Reactions:
Conditions To Avoid - No data available.

Hazardous Reactions:

11. Toxicological Information

Toxicological Information: Epidemiology: No information available.
 Teratogenicity: No information available.
 Reproductive Effects: Mutagenicity: Neurotoxicity: Other Studies: No information found.

Carcinogenicity/Other Information: CAS# 7558-79-4: Not listed by ACGIH, IARC, NTP, or CA Prop 65. CAS# 3483-12-3: Not listed by ACGIH, IARC, NTP, or CA Prop 65.
 CAS# 27565-41-9: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

12. Ecological Information

General Ecological Information: Environmental: No information available.
 Physical: No information available.
 Other: Do not empty into drains.

13. Disposal Considerations

Waste Disposal Method: Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
 RCRA P-Series: None listed.
 RCRA U-Series: None listed.

14. Transport Information

GHS Classification: Skin Corrosion/Irritation, Category 3 - Warning! Causes mild skin irritation

LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Not Regulated.

DOT Hazard Class:

UN/NA Number:

LAND TRANSPORT (Canadian TDG):

TDG Shipping Name: Not Regulated.

UN Number:

Hazard Class:

TDG Classification:

15. Regulatory Information

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
3483-12-3	Threitol, 1,4-dithio- {(R*,R*)-1,4-Dimercaptobutane-2,3-diol}	No	No	No
7647-01-0	Hydrochloric acid {Hydrogen chloride}	Yes 500 LB	Yes 5000 LB	Yes

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Explosive	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Acute toxicity (any route of exposure)
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Flammable (gases, aerosols, liquid, or solid)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Skin Corrosion or Irritation
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Oxidizer (liquid, solid or gas)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Serious eye damage or eye irritation
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Self-reactive	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Respiratory or Skin Sensitization
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Pyrophoric (liquid or solid)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Germ cell mutagenicity
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Pyrophoric gas	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Carcinogenicity
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Self-heating	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Reproductive toxicity
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Organic peroxide	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Specific target organ toxicity (single or repeated exposure)
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Corrosive to metal	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Aspiration Hazard
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Gas under pressure (compressed gas)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Simple Asphyxiant

<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	In contact with water emits flammable gas	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	(Health) Hazard Not Otherwise Classified (HNOC)
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Combustible Dust		
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	(Physical) Hazard Not Otherwise Classified (HNOC)		
CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists	
3483-12-3	Threitol, 1,4-dithio- {(R*,R*)-1,4-Dimercaptobutane-2,3-diol}	CA PROP.65: No; MA Oil/HazMat: No; NJ EHS: No; PA HSL: No	
7647-01-0	Hydrochloric acid {Hydrogen chloride}	CA PROP.65: No; MA Oil/HazMat: Yes; NJ EHS: Yes - 1012; PA HSL: Yes - E	

16. Other Information

Revision Date: 12/04/2018

Preparer Name: Tim Meehan

Additional Information About This Product: No data available.

Document & Change Control Number: SDS0169.E CC18-328.

Company Policy or Disclaimer: Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.