

Safety Data Sheet (SDS)

Revision Number: 1.1	Last updated: 8July2013
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1. Identification

<i>Product identifier used on the label and other means of identification:</i>	<i>Name</i>	<i>Catalog Number</i>	<i>Unit Size</i>
	DL-Dithiothreitol	25185-5, 25185-20, 25185-1000	5g, 20g, 1kg
<i>Recommended use/restrictions on use:</i>	For research use only. Not intended for food, drug, household, agricultural or cosmetic use.		
<i>Manufacturer/Distributor:</i>	AnaSpec, Inc. www.anspec.com 34801 Campus Drive Fremont, CA 94555 Tel: 510-791-9560 Fax: 510-791-9572 Email: service@anspec.com		
<i>Emergency phone number:</i>	1-800-728-2482		

2. Hazards Identification

<p><i>GHS Hazard Classification:</i> <i>GHS Physical Hazards</i> No Physical Hazards</p> <p><i>GHS Health and Environmental Hazards:</i> Acute Toxicity, Oral (category 4) Skin irritation (category 2) Eye irritation (Category 2A) Specific target organ toxicity –single exposure (Category 3)</p> <p><i>GHS Signal Words:</i> Warning</p> <p><i>GHS Hazard Statements:</i> H302 Harmful if swallowed. H315 Causes skin irritation H319 Causes serious eye irritation. H335 May cause respiratory irritation.</p> <p><i>GHS Hazard Symbol/Pictogram:</i></p> <div style="text-align: center; margin: 10px 0;">  </div> <p><i>GHS Precautionary Statements:</i> P261 Avoid breathing dust/fume/gas/mist/vapours/spray P264 Wash skin thoroughly after handling.</p>



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P270 Do not eat, drink or smoke when using this product.
 P280 Wear protective gloves/eye protection/face protection.
 P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
 P302 + P352 IF ON SKIN: Wash with plenty of soap and water
 P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P312 Call a POISON CENTER or doctor/physician if you feel unwell.
 P321 Specific treatment (see supplemental first aid instructions on this label).
 P330 Rinse mouth.
 P332 + P313 If skin irritation occurs: get medical advice/attention.
 P337 + P313 If eye irritation occurs: Get medical advice/attention.
 P362 Take off contaminated clothing and wash before reuse.
 P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
 P405 Store locked up.
 P501 Dispose of contents/ container to an approved waste disposal plant.

Description of any hazards not otherwise classified: N/A

Description of any unknown acute toxicity: N/A

HMIS Classification

Health hazard: 2

*Chronic Health Hazard: **

Flammability: 1

Physical hazards: 1

NFPA Rating

Health hazard: 2

Fire: 1

Reactivity Hazard: 1

3. Composition / Information on Ingredients

Ingredients/Components:

<i>Chemical Name and Synonyms:</i>	<i>CAS Number:</i>	<i>Molecular Formula:</i>	<i>Molecular Weight:</i>
DL-Dithiothreitol	3483-12-3	C ₄ H ₁₀ O ₂ S ₂	154.25

4. First Aid Measures

NOTE: Refer to "11. Toxicological Information" for more information on additional symptoms and effects.

<i>Inhalation:</i>	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician
<i>Ingestion:</i>	Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a

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	physician.	
<i>Skin:</i>	Wash off with soap and plenty of water. Consult a physician.	
<i>Eyes:</i>	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.	
<u>5. Fire Fighting Measures</u>		
<i>Extinguishing media:</i>	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.	
<i>b) Unusual fire and explosion hazards (hazardous combustion products):</i>	Hazardous decomposition products formed under fire condition.	
<i>c) PPE for firefighters and special firefighting procedures/techniques:</i>	Wear self contained breathing apparatus for fire fighting if necessary.	
<u>6. Accidental Release Measures</u>		
NOTE: Use PPE described in “8. Exposure Controls/Personal Protection” when responding to accidental release.		
<i>Precautions and spill response/procedure</i>	Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.	
<i>Containment materials</i>	Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.	
<u>7. Handling and Storage</u>		
<i>Provisions for safe handling</i>	Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.	
<i>Conditions for safe storage</i>	Keep container tightly closed in a dry and well-ventilated place. Recommended storage temperature: 2-8 °C. Keep in a dry place.	
<u>8. Exposure Controls / Personal Protection</u>		
<i>Exposure limits</i>	<i>OSHA Permissible Exposure Limit(PEL)</i>	N/A
	<i>ACGIH Threshold Limit Values (TLV)</i>	N/A
<i>Engineering controls</i>	N/A	
<i>PPE</i>	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wear safety glasses when handling.	
<u>9. Physical and Chemical Properties</u>		
<i>a) Appearance (Physical State, color, etc.)</i>	White powder	
<i>b) Odor</i>	N/A	
<i>c) Order threshold</i>	N/A	
<i>d) pH</i>	4.0 – 6 at 15.4 g/l at 25 °C	
<i>e) Initial Boiling Point Boiling Range</i>	N/A	

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f) Flash Point	N/A
g) Melting Point/Freezing point	N/A
h) Evaporation Rate:	N/A
i) Flammability (solid, gas)	N/A
j) Upper/Lower Flammability or Explosive Limits	N/A
k) Vapor Pressure:	N/A
l) Vapor Density:	N/A
m) Relative Density	N/A
n) Solubility(ies)	N/A
o) Partition Coefficient n-octanol/water	N/A
p) Auto-Ignition Temperature	N/A
q) Decomposition Temperature	N/A
r) Viscosity	N/A
s) Other	N/A

10. Stability and Reactivity

NOTE: See "5. Fire Fighting Measures" for any "hazardous combustion products".

a) Reactivity	N/A
b) Chemical stability	May decompose on exposure to moist air or water. Stable under recommended storage conditions.
c) Possibilities of hazardous Reactions	N/A
d) Conditions to avoid	N/A
e) Incompatible materials	N/A
f) Hazardous decomposition products	Hazardous decomposition products formed under fire conditions.

11. Toxicological Information

a) Likely routes of exposure	Ingestion, skins, and eyes.	
b) Description of the symptoms	Inhalation may cause respiratory irritation.	
c) Effects from short- and long- term exposure	Immediate effects:	N/A
	Delayed effects:	N/A
	Chronic effects:	N/A
d) Toxicity	LD50 Oral-rat-400 mg/kg	
e) Carcinogenicity:	N/A	

12. Ecological Information

Do not allow product to reach ground water.

13. Disposal Considerations

NOTE: Use PPE described in "8. Exposure Controls/Personal Protection" during disposal.

Offer surplus and non-recyclable solutions to a license disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent

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and burn in a chemical incinerator equipped with an afterburner and scrubber.

14. Transport Information

<i>UN Number</i>	3335
<i>Transport hazard Class</i>	9
<i>Packing Group</i>	III
<i>Proper Shipping Name (DOT/IATA)</i>	Aviation regulated solid, n.o.s. ((R*, R*)-1,4-Dimercaptobutane-2,3-diol)

15. Regulatory Information

US TSCA (Toxic Substance Control Act): Y

US CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act): N/A

US SARA Title III (Superfund Amendments and Reauthorization Act): This material does not contain any chemical components with known CAS numbers that exceed the threshold reporting levels established by SARA Title III, Section 313.

US Clean Air Act:

Listed under Hazardous Air Pollutants: N/A

Listed under Class 1 Ozone Depletors: N/A

Listed under Class 2 Ozone Depletors: N/A

US Clean Water Act:

Listed under "Hazardous Substances": N/A

Listed under "Priority Pollutants": N/A

Listed under "Toxic Pollutants": N/A

US States: N/A

RETC Number: N/A

Right-to-Know: N/A

Listed in the following States: N/A

California Proposition 65: This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

European/International Regulations:

EC EINECS (European Inventory of Existing Commercial Chemical Substances) Number: N/A

WGK (Water Danger / Protection): N/A

Canada – DSL/NDSL: N/A

Canada – WHMIS classification: N/A

Canada – Canadian Ingredient Disclosure List: N/A

16. Other Information

The above information is believed to be correct but does not purport to be all inclusive. Users of this SDS shall understand it is to be used only as a guide. Users should make independent decisions regarding completeness of the information based on all sources available. Users are granted the right to make unlimited copies of this SDS for internal use only. AnaSpec shall not be held liable for any damage resulting from handling or from contact with the above product. The date of first preparation or last revision is listed at the top of this SDS.

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