

aca(R) analyzer & Dimension(R) system  
**DRUG Calibrator**

MSDS No.

DEDM005001-00

**1. Product and Company Identification**

<b>Product Trade Name</b>	aca(R) analyzer & Dimension(R) system DRUG Calibrator	<b>Validation Date</b>	15 August 2001
<b>Synonyms</b>	Drug Calibrator	<b>Product Code</b>	DC22A, DC22B
		<b>Internal Code</b>	DC22A, DC22B
<b>Product Information</b>	800-441-9250		
<b>Manufactured/ Supplied</b>	Dade Behring Inc. P. O. Box 6101 Newark DE 19714 USA		
<b>In Case of Emergency</b>	Transportation: (800) 424-9300 (CHEMTREC) Medical: (800) 228-5635 ext. 284 (Prosar)		

**2. Composition and Information on Ingredients**

<u>Ingredient Name</u>	<u>Conc. (% w/w)</u>	<u>CAS No.</u>	<u>U.N. No.</u>	<u>EU Symbol</u>	<u>R-Phrases</u>
1) Human Serum	>99		Not applicable.	Not controlled.	Not controlled under dsd (Europe).
2) Sodium azide	0.195	26628-22-8	UN1687	T+, N	R28, R32, R50/53
3) Thimerosal	0.0097	54-64-8	Not applicable.	T+	R28, R33, R43
4) Phenobarbital	<0.008	50-06-6	Not applicable.	T	R25
5) Theophylline	<0.004	58-55-9	Not applicable.	Xn	R22
6) Phenytoin	<0.004	57-41-0	Not applicable.	T	R22, R40, R43, R61
7) Lithium Carbonate (DC22B only)	<0.004	554-13-2	Not applicable.	Not controlled.	Not controlled under dsd (Europe).
8) Digoxin	<0.00001	20830-75-5	UN2811	T+	R28

Note: See section 8 for occupational exposure limits and section 11 for LC50/LD50 information.

**3. Hazards Identification**

**Primary Hazards and Critical Effects** : WARNING!  
 CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS: KIDNEYS, CARDIOVASCULAR SYSTEM, SKIN, CENTRAL NERVOUS SYSTEM, EYES.  
 MAY BE HARMFUL IF SWALLOWED.  
 MAY CAUSE EYE IRRITATION.  
 MAY CAUSE ALLERGIC SKIN REACTION.  
 Avoid contact with eyes. Do not ingest. Avoid prolonged or repeated contact with skin. Wash thoroughly after handling.  
 WARNING: Because no test method can offer complete assurance that human blood products, or other potentially infectious material, do not contain HIV, hepatitis B virus, hepatitis C virus, or other infectious agents, this material should be handled as though it were potentially infectious.

## 4. First Aid Measures

- Inhalation** : If inhaled, remove to fresh air. If not breathing, give artificial respiration. 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.
- Skin Contact** : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
- Eye Contact** : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

## 5. Fire-Fighting Measures

- Extinguishing Media** : Use foam or all purpose dry chemicals to extinguish.
- Fire-Fighting Procedures** : Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.
- Fire/Explosion Hazards** : Not applicable.
- Hazardous Decomposition Products** : Not applicable.

## 6. Accidental Release Measures

- Personal Precautions** : Potentially biohazardous material. Follow your company's spill procedures. Keep people away from spill. Put on appropriate personal protective equipment (see Section 8).
- Environmental Precautions and Clean-up Methods** : If emergency personnel are unavailable, contain spilled material. For small spills add absorbent (soil may be used in the absence of other suitable materials) scoop up material and place in a sealed, liquid-proof container for disposal. Potentially biohazardous material.

**Note:** See section 1 for emergency contact information and section 13 for waste disposal.

## 7. Handling and Storage

- Handling** : Avoid contact with eyes. Do not ingest. Avoid prolonged or repeated contact with skin. Wash thoroughly after handling.
- Storage** : Keep container tightly closed. Keep container in a cool, well-ventilated area.

## 8. Exposure Controls and Personal Protection

### Occupational Exposure Limits

<u>Ingredient Name</u>	<u>OEL United States</u>	<u>OEL Canada</u>
1) Human Serum	Not available.	Not available.
2) Sodium azide	CEIL: 0.11 (ppm) from ACGIH (TLV) [United States] [1996] Inhalation CEIL: 0.29 (mg/m <sup>3</sup> ) from ACGIH (TLV) [United States] [1996] Inhalation TWA: 0.2 CEIL: 0.1 (ppm) from NIOSH [United States] [1994] SKIN CEIL: 0.3 (mg/m <sup>3</sup> ) from NIOSH [United States] [1994] SKIN CEIL: 0.1 (ppm) from OSHA (PEL) [United States] [1989] SKIN CEIL: 0.3 (mg/m <sup>3</sup> ) from OSHA (PEL) [United States] [1989] SKIN	Not available.
3) Thimerosal	TWA: 0.01 STEL: 0.03 (mg/m <sup>3</sup> ) from ACGIH (TLV) [United States] SKIN	Not available.
4) Phenobarbital	Not available.	Not available.
5) Theophylline, anhydrous	Not available.	Not available.
6) Phenytoin	Not available.	Not available.
7) Lithium Carbonate (DC22B only)	Not available.	Not available.
8) Digoxin	Not available.	Not available.

- Engineering Controls** : No special containment is required.

### Personal Protective Equipment

- Respiratory System** : A respirator is not needed under normal and intended conditions of product use.

- Skin and Body** : Work uniform or laboratory coat. Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable suits).
- Hands** : Use chemical resistant, impervious gloves. Appropriate techniques should be used to remove potentially contaminated clothing.
- Eyes** : Safety glasses. Goggles, face shield, or other full-face protection if potential exists for direct exposure to aerosols or splashes.

## 9. Physical and Chemical Properties

- Physical State and Appearance** : Liquid.
- pH** : 7 [Neutral.]
- Volatility** :
- Specific Gravity** : 1.025 (Water = 1)
- Solubility** : Easily soluble in cold water.  
Soluble in n-octanol.  
Partially soluble in methanol, diethyl ether.  
Insoluble in hot water.

## 10. Stability and Reactivity

- Stability** : The product is stable.
- Conditions and Materials to Avoid** : Sodium azide may react with lead or copper plumbing to form highly explosive metal azides.
- Contact with acids and acidic solutions may cause generation of very irritating, flammable hydrazoic acid gas. Hydrazoic acid vapors can be generated from azide component.
- Hazardous Decomposition Products** : Not available.

## 11. Toxicological Information

### Toxicity Data

<u>Ingredient Name</u>	<u>Test</u>	<u>Result</u>	<u>Route</u>	<u>Species</u>
1) Human Serum	Not available.	Not available.	Not available.	Not available.
2) Sodium azide	LD50	27 mg/kg	Oral	Rat
	LD50	27 mg/kg	Oral	Mouse
	LD50	20 mg/kg	Dermal	Rabbit
	LDLo	29 mg/kg	Oral	Male.
	LDLo	14 mg/kg	Oral	Female.
3) Thimerosal	LD50	75 mg/kg	Oral	Rat
	LD50	91 mg/kg	Oral	Mouse
4) Phenobarbital	LD50	162 mg/kg	Oral	Rat
	LD50	137 mg/kg	Oral	Mouse
	LD50	150 mg/kg	Oral	Dog
5) Theophylline, anhydrous	LD50	244 mg/kg	Oral	Rat
	LD50	235 mg/kg	Oral	Mouse
	LD50	350 mg/kg	Oral	Rabbit
	LDLo	130 mg/kg	Oral	woman
6) Phenytoin	LD50	150 mg/kg	Oral	Rat
	LD50	1635 mg/kg	Oral	Mouse
	LD50	250 mg/kg	Oral	Mammal
	LDLo	1300 mg/kg	Oral	Human Male.
LDLo	200 mg/kg	Oral	Human Female.	
	Not available.	Not available.	Not available.	Not available.
7) Lithium Carbonate (DC22B only)	Not available.	Not available.	Not available.	Not available.
8) Digoxin	LD50	28.27 mg/kg	Oral	Rat
	LD50	17.78 mg/kg	Oral	Mouse
	LD50	0.3 mg/kg	Oral	Dog
	LDLo	0.2 mg/kg	Oral	Cat

- Routes of Entry** : Skin contact. Eye contact. Inhalation.

### Acute Effects

- Inhalation** : Harmful by inhalation.
- Ingestion** : Harmful if swallowed.

**Skin Contact** : May cause sensitization by skin contact.

**Eye Contact** : Moderately irritating to the eyes.

**Chronic Effects**

**Adverse Effects** : allergic reaction cardiovascular effects central nervous system depression

**Target Organs** : kidneys cardiovascular system skin central nervous system (CNS) eyes

**Carcinogenic Effects** :

**Other Information**

: Potentially biohazardous material. Sodium Azide, in the quantity present and as this product is normally used, is not likely to have adverse human health effects.

## 12. Ecological Information

**Ecotoxicity Data**

<u>Ingredient Name</u>	<u>Species</u>	<u>Period</u>	<u>Result</u>
1) Human Serum	Not available.	Not available.	Not available.
2) Sodium azide	Bluegill. Trout	96 hours 96 hours	0.8 mg/l 0.8 to 1.6 mg/l
3) Thimerosal	Guppy	24 hours	1.2 mg/l
4) Phenobarbital	Fathead minnow	96 hours	48.4 mg/l
5) Theophylline, anhydrous	Not available.	Not available.	Not available.
6) Phenytoin	Not available.	Not available.	Not available.
7) Lithium Carbonate (DC22B only)	Not available.	Not available.	Not available.
8) Digoxin	Not available.	Not available.	Not available.

**Environmental Hazards** : No known significant effects or critical hazards.

## 13. Disposal Consideration

**Waste Handling and Disposal** : Waste must be disposed of in accordance with federal, state and local environmental control regulations. Potentially biohazardous material.  
: Sodium azide may react with lead or copper plumbing to form highly explosive metal azides.

## 14. Transport Information

**United States**

**Shipping Description** : Not regulated.

**Canada**

**Shipping Description** : Not regulated.

**Sea**

**Shipping Description** : Not regulated.

**Air**

**Shipping Description** : Not regulated.

## 15. Regulatory Information

**US Regulations**

**Haz-Com Standard** : CLASS: Sensitizing substance.

**EPA** : TSCA 8(b) inventory: Sodium azide; Thimerosal; Theophylline, anhydrous; Digoxin; Lithium Carbonate  
SARA 302/304/311/312 extremely hazardous substances: Sodium azide; Digoxin  
SARA 302/304 emergency planning and notification: Sodium azide; Digoxin  
SARA 302/304/311/312 hazardous chemicals: Sodium azide; Thimerosal; Phenytoin; Phenobarbital; Digoxin; Lithium Carbonate  
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Sodium azide: immediate health hazard; Thimerosal: immediate health hazard, delayed health hazard; Theophylline, anhydrous: immediate health hazard; Phenytoin: delayed health hazard; Phenobarbital: immediate health hazard, delayed health hazard; Digoxin: immediate health hazard, delayed health hazard; Lithium Carbonate: delayed health hazard  
CERCLA: Hazardous substances.: Sodium azide: 1000 lbs. (453.6 kg);

**State** : California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: Phenobarital, Phenytoin; Lithium Carbonate  
California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: Phenytoin  
Rhode Island RTK hazardous substances: Sodium azide; Phenytoin  
Pennsylvania RTK: Sodium azide: (environmental hazard); Phenytoin: (special hazard); Digoxin: (environmental hazard)  
Florida: Sodium azide; Phenytoin  
Minnesota: Sodium azide; Phenytoin  
Michigan critical material: Phenytoin  
Massachusetts RTK: Sodium azide; Phenobarbital; Phenytoin; Lithium Carbonate; Digoxin  
Massachusetts spill list: Sodium azide  
New Jersey: Sodium azide; Phenytoin; Lithium Carbonate; Digoxin  
New Jersey spill list: Sodium azide

#### Canadian Regulations

**WHMIS** : Not controlled under WHMIS (Canada).  
**CEPA** : CEPA DSL: Sodium azide; Thimerosal; Theophylline, anhydrous; Phenobarbital; Digoxin; Lithium Carbonate  
**Provincial** : No products were found.

## 16. Other Information

Validated by baldwinron on 8/15/2001.

**Version** : 1.3  
**Date of Printing** : 8/15/2001.

#### Notice to Reader

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