

Dimension(R) system ABS Flex(R) reagent cartridge

MSDS No.

DEDM003501-00

1. Product and Company Identification

Product Trade Name	Dimension(R) system ABS Flex(R) reagent cartridge	Validation Date	31 October 2001
Synonyms	Absorbance Test Flex(R)	Product Code	DF79
Product Information	800-441-9250	U.N. No.	3264
Manufactured/ Supplied	Dade Behring Inc. P. O. Box 6101 Newark DE 19714 USA		
In Case of Emergency	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) Water	69	7732-18-5	Not applicable.	Not controlled.	Not controlled under dsd (Europe).
2) Cobalt(II) sulfate	30	10124-43-3	Not applicable.	T, N	R22, R42/43, R49, R50/53
3) Sulfuric acid.	1	7664-93-9	UN1830	C	R35

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

3. Hazards Identification

Primary Hazards and Critical Effects : DANGER!
 CAUSES EYE AND SKIN BURNS.
 VERY TOXIC TO AQUATIC ORGANISMS
 CONTAINS MATERIAL WHICH MAY CAUSE CANCER
 MAY BE HARMFUL IF SWALLOWED.
 MAY CAUSE ALLERGIC RESPIRATORY AND SKIN REACTION.
 MAY CAUSE DAMAGE TO THE FOLLOWING ORGANS: KIDNEYS, LUNGS, HEART, THYROID.
 MAY BE HARMFUL TO ENVIRONMENT IF RELEASED IN LARGE AMOUNTS.
 Risk of cancer depends on duration and level of exposure. Do not get in eyes, on skin or on clothing. Do not breathe vapor or mist. Avoid contact of spilled material and runoff with soil and surface waterways.

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 immediately.
- Eye Contact** : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

5. Fire-Fighting Measures

- Extinguishing Media** : Use foam or all purpose dry chemicals to extinguish. This material is very toxic to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
- 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** : Use suitable protective equipment (Section 8). Follow all fire fighting procedures (Section 5).
- Environmental Precautions and Clean-up Methods** : 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.

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

7. Handling and Storage

- Handling** : Risk of cancer depends on duration and level of exposure. Do not get in eyes, on skin or on clothing. Do not ingest. Do not breathe vapor or mist. Avoid prolonged or repeated contact with skin. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. Avoid contact of spilled material and runoff with soil and surface waterways.
- 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) Deionized Water	Not available.	Not available.
2) Cobalt (II) sulfate	TWA: 0.02 (mg/m ³) from ACGIH (TLV) [United States] [2000]	Not available.
3) Sulfuric Acid	TWA: 1 STEL: 3 (mg/m ³) from ACGIH (TLV) [United States] TWA: 1 (mg/m ³) from NIOSH [United States] [1994] Inhalation TWA: 1 (mg/m ³) from OSHA (PEL) [United States] [1989] Inhalation	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** : Disposable outer garments when there is the potential for contact with the material.
- Hands** : Gloves, Chemical resistant.
- 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.
- Color** : Red. (Dark.)
- pH** : 1.2 [Acidic.]
- Melting Point** : May start to solidify at 0°C (32°F) based on data for: Deionized Water. Weighted average: -0.17°C (31.7°F)
- Boiling Point** : The lowest known value is 100°C (212°F) (Deionized Water). Weighted average: 102.49°C (216.5°F)
- Evaporation Rate** : not available
- Specific Gravity** : Weighted average: 1.29 (Water = 1)
- Solubility** : Easily soluble in cold water.
Soluble in hot water.
Partially soluble in methanol.

10. Stability and Reactivity

- Stability** : The product is stable.
- Conditions and Materials to Avoid** : Reactive with organic materials, alkalis.
Slightly reactive to reactive with oxidizing agents.
- 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) Deionized Water	LD50	90000 mg/kg	Oral	Rat
2) Cobalt (II) sulfate	LD50	424 mg/kg	Oral	Rat
	LD50	584 mg/kg	Oral	Mouse
	LDLo	1800 mg/kg	Oral	Rabbit
3) Sulfuric Acid	LD50	2140 mg/kg	Oral	Rat

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

Acute Effects

- Inhalation** : May cause sensitization by inhalation.
- Ingestion** : Harmful if swallowed.
- Skin Contact** : Severely irritating to the skin. May cause skin sensitization.
- Eye Contact** : May cause severe eye irritation.

Chronic Effects

- Adverse Effects** : allergic reaction
- Target Organs** : Contains material which causes damage to the following organs: thyroid lungs heart kidneys
- Carcinogenic Effects** : Classified 2B (Possible for human.) by IARC [Cobalt (II) sulfate].

12. Ecological Information

Ecotoxicity Data

<u>Ingredient Name</u>	<u>Species</u>	<u>Period</u>	<u>Result</u>
1) Deionized Water	Not available.	Not available.	Not available.
2) Cobalt (II) sulfate	Fathead minnow	96 hours	3.61 mg/l
3) Sulfuric Acid	Trout	48 hours	0.0028 mg/l

- Environmental Hazards** : Very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

13. Disposal Consideration

- Waste Handling and Disposal** : Waste must be disposed of in accordance with federal, state and local environmental control regulations.

14. Transport Information

United States

- Shipping Description** : Corrosive Liquid, ACIDIC, Inorganic N.O.S. (Sulphuric Acid), 8, 3264, III

Canada

- Shipping Description** : Corrosive Liquid, ACIDIC, Inorganic N.O.S. (Sulphuric Acid), 8, 3264, III

Sea

- Shipping Description** : Shipping name: Corrosive Liquid, ACIDIC, Inorganic N.O.S. (Sulphuric Acid) (Sulfuric Acid) UNNA: 3264 PG: III

15. Regulatory Information

US Regulations

- Haz-Com Standard** : CLASS: Contains material which may cause cancer.
CLASS: Toxic.
CLASS: Sensitizing substance.
- EPA** : TSCA 8(a) PAIR: Cobalt (II) sulfate
TSCA 8(b) inventory: Deionized Water; Cobalt (II) sulfate; Sulfuric Acid
SARA 302/304/311/312 extremely hazardous substances: Sulfuric Acid
SARA 302/304 emergency planning and notification: Sulfuric Acid
SARA 302/304/311/312 hazardous chemicals: Cobalt (II) sulfate; Sulfuric Acid
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Cobalt (II) sulfate: immediate health hazard; Sulfuric Acid : reactive, immediate health hazard, delayed health hazard
SARA 313 toxic chemical notification and release reporting: Cobalt (II) sulfate 30%; Sulfuric Acid 1%
CERCLA: Hazardous substances.: Sulfuric Acid : 1000 lbs. (453.6 kg);
Clean Water Act (CWA) 311: Sulfuric Acid
- State** : 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: Cobalt (II) sulfate
Pennsylvania RTK: Sulfuric Acid : (environmental hazard)
Florida: Sulfuric Acid
Minnesota: Sulfuric Acid
Massachusetts RTK: Sulfuric Acid
New Jersey: Sulfuric Acid

Canadian Regulations

- WHMIS** : Not a WHMIS controlled material.
- CEPA** : CEPA DSL: Deionized Water; Cobalt (II) sulfate; Sulfuric Acid
- Provincial** : No products were found.

16. Other Information

Validated by baldwinron on 10/31/2001.

- Version** : 1.6.1
- Date of Printing** : 7/13/2002.

Notice to Reader

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Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.