




SAFETY DATA SHEET

Doc. ID: A93290-75 AB
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Section 1 Company and Product Identification

Product Name	TMB chromogen solution
Part Number	A93290
Product Use	For laboratory use only. See product literature for details. For Use With Microplate Enzyme Immunoassays
Series Name	ACTIVE®
Manufacturer	Manufactured by Beckman Coulter, Inc. 250 S. Kraemer Blvd Brea, CA 92821, U.S.A. Tel: 800-854-3633 E-mail: SDSNT@beckman.com
EC REP Address	Beckman Coulter Ireland Inc. Mervue Business Park Mervue, Galway, Ireland Tel: 353 91 774068
Distributor and Emergency Phone No.	 Refer to attached list, Document ID: 472050 , for local distributor and emergency phone numbers.

Section 2 Hazards Identification

Emergency Overview	Colorless; Clear; Liquid; Odorless Nonflammable solution. Severe eye irritant. Skin, respiratory and gastrointestinal tract irritant. Potential allergen.		
Physical Hazards	No physical hazards were determined from a review of available literature.		
Potential Health Effects Summary	Exposure may cause irritation or burns to respiratory tract, skin, and eyes. Corrosive effects may be delayed. See Section 11 Toxicological Information for more detailed health information.		
Potential Environmental Effects	Not available		
Product Hazard Classifications	Meets Hazardous Criteria for Preparation/Mixture		
	EU: Not applicable	WHMIS: E	US OSHA: Hazardous

Section 3 Composition and Information on Ingredients

Hazardous Ingredients:				Hazard Classification of Pure Ingredients		
Chemical Name	CAS #	EINECS #	% by wt.	EU	WHMIS	US OSHA
Citric Acid	77-92-9	2010691	< 2	Xi;R 36	E	Corrosive

See Section 15 Regulatory Information for additional information on hazard classifications.
See Section 16 for Risk Phrases and WHMIS Classification Description.

Section 4 First Aid Measures

Inhalation	If product is inhaled, move exposed individual to fresh air. If individual is not breathing, begin artificial respiration immediately and obtain medical attention.
Eye Contact	If product enters eyes, wash eyes gently under running water for 15 minutes or longer, making sure that the eyelids are held open. If pain or irritation occur, obtain medical attention.
Skin Contact	In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. If pain or irritation occur, obtain medical attention.
Ingestion	If ingested, wash mouth out with water. If irritation or discomfort occurs, seek medical attention.

Section 5 Fire Fighting Measures

Flammable Properties	Nonflammable solution.
Extinguishing Media	Use extinguishing media suitable for surrounding fire.
Special Fire and Explosion Hazards	No special hazards determined.
Hazardous Combustion Products	No combustion products posing significant hazards are expected from this product.
Protective Equipment for Firefighters	Self-contained breathing apparatus is recommended for firefighters in all chemical fire situations.

Section 6 Accidental Release Measures

Personal Precautions	Use good laboratory procedures; avoid eye and skin contact.
Spill and Leak Procedures	Absorb spilled material with an appropriate inert, non-flammable absorbent and dispose according to local regulations.
Environmental Precautions	Contain spill to prevent migration.

Section 7 Handling and Storage

Handling Precautions	Use good laboratory procedures; avoid eye and skin contact.
Recommended Storage Conditions	Keep away from incompatible material (see Section 10). To maintain efficacy, store according to the instructions in the product labeling.

Section 8 Exposure Controls and Personal Protection

Exposure Limits	
US OSHA:	None established
ACGIH:	None established
DFG MAK:	None established
NIOSH	None established
Japan	None established
Engineering Controls	No special engineering controls are required. Use with good general ventilation.
Respiratory Protection	Under normal conditions, the use of this product should not require respiratory protection. If overexposure should occur and ventilation is not adequate to maintain airborne concentrations at acceptable levels, the use of respiratory protection should be evaluated by a qualified professional.
Eye Protection	Safety glasses or chemical goggles should be worn to prevent eye contact. Refer U.S. OSHA 29 CFR 1910.133, European Standard EN166 or appropriate government standards.
Skin Protection	Impervious gloves, such as Nitrile or equivalent, should be worn to prevent skin contact. Refer U.S. OSHA 29 CFR 1910.138, European Standard EN374 or appropriate government standards.

Section 9 Physical and Chemical Properties

Physical State	Liquid
Color	Colorless
Transparency	Clear
Odor	Odorless
Odor Threshold	Not applicable
pH	≈ 3.8
Freezing Point	Not available
Boiling Point	Not available
Flash Point	Not applicable
Evaporation Rate	Not available

Section 9 Physical and Chemical Properties (Continued)

Flammability (Solid, Gas)	Not applicable
Flammable Limits	Not available
Vapor Pressure	Not available
Vapor Density	Not available
Specific Gravity	Not available
Solubility	
Water	Miscible
Organic	Not available
Coefficient of Water/Oil Distribution	Not available
Autoignition Temp.	Not applicable
Decomposition Temperature	Not available
Percent Volatiles	Not available

Section 10 Stability and Reactivity

Stability	Stable under normal temperatures and pressures.
Hazardous Incompatibilities	Strong acids Strong bases Strong oxidizers
Hazardous Decomposition Products	No decomposition products posing significant hazards would be expected from this product.
Conditions to Avoid	Avoid contact with incompatible materials.

Section 11 Toxicological Information

Toxicity Data for Hazardous Ingredients	
Citric Acid	Oral LD50 Rat 3000 mg/kg
Primary Routes of Exposure	Eye contact, ingestion, inhalation, and skin contact.
Potential Effects of Acute Exposure	Eye and skin contact may cause irritation or burns. Inhalation of dust may cause irritation or burns to the mucous membranes and respiratory tract. Severe overexposure may cause chemical pneumonitis and pulmonary edema. Ingestion may cause mucous membrane and gastrointestinal irritation or burns and other adverse effects.

Section 11 Toxicological Information (Continued)

Potential Effects of Chronic Exposure	Repeat and prolonged contact with skin and eyes may result in dermatitis and conjunctivitis. Prolonged exposure by inhalation may cause mucous membrane irritation.
Symptoms of Overexposure	Symptoms may include pain or burning of skin, eyes, nose, throat, or upper respiratory tract, local white discoloration of skin or mucous membrane, coughing, shortness of breath, nausea, and vomiting.
Carcinogenicity	No ingredients in this product are listed as carcinogens by ACGIH, IARC, NTP, OSHA or 67/548/EEC Annex I.
Other Effects	None identified.
Conditions Aggravated by Exposure	Individuals with blood and kidney disorders may find these conditions aggravated by exposure to this product.

Section 12 Ecological Information

Ecotoxicity	
Citric Acid	96 Hr LC50 <i>Lepomis macrochirus</i> : 1516 mg/L [static]
Biodegradability	No information available.
Bioaccumulation	No information available.
Mobility	No information available.
Other Adverse Effects	No information available.

Section 13 Disposal Considerations

Waste Disposal	Dispose of waste product, unused product and contaminated packaging in compliance with federal, state and local regulations. If unsure of the applicable requirements, contact the authorities for information.
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Section 14 Transport Information

Transportation of this product is not regulated under ICAO, IMDG, US DOT, European ADR or Canadian TDG.

Section 15 Regulatory Information

US Federal and State Regulations

SARA 313	No ingredients listed.
CERCLA RG's, 40 CFR 302.4	No ingredients listed.
California Proposition 65	No ingredients listed.
Massachusetts MSL	No ingredients listed.

Section 15 Regulatory Information (Continued)

New Jersey Dept. of Health RTK List	No ingredients listed.
Pennsylvania RTK	No ingredients listed.
EU Labeling Classification	
Preparation not classified.	
Canada	
WHMIS Classification:	E - Corrosive Material
PIN:	Not applicable
Ingredients on Ingredient Disclosure List:	Citric Acid
Ingredients with unknown toxicological properties:	None
Some hazardous ingredients listed in Section 15 are below OSHAs and WHMIS' 1.0% w/w (0.1% for carcinogens) or EU's ingredient specific concentrations required for reporting in Section 3.	

Section 16 Other Information

Beckman Coulter Safety Rating	Flammability (Section V): 0 Health (Section XI): 2 Reactivity with Water (Section X): 0 Contact (Section VIII): 2	Code 0=none 1=slight 2=caution 3=severe
Risk Phrases and WHMIS Classification Description From Section 3	R 36 Irritating to eyes. E - Corrosive Material	
This SDS complies with EC Regulation 1907/2006 (REACH)		
For further information, please contact your local Beckman Coulter representative.		

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