BECKMAN COULTER

SAFETY DATA SHEET

Doc. ID: 472481-75 AF
Revised (year/month/day) 2013/04/26

Section 1 Identification of the Substance/mixture and of the Company/undertaking

1.1 Product Identifier

Product Name CO_2 Acid Reagent

Part Number 472481

Series Name SYNCHRON® Systems

1.2 Relevant identified uses of the substance or mixture and uses advised against

Product Use For In Vitro Diagnostic Use. See product literature for details.

1.3 Details of supplier of the safety data sheet

Manufacturer	**EC REP Address**
Beckman Coulter, Inc. 250 S. Kraemer Blvd Brea, CA 92821, U.S.A. Tel: 800-854-3633	Beckman Coulter Ireland Inc. Mervue Business Park Mervue, Galway, Ireland Tel: 353 91 774068

e-mail address SDSNT@beckman.com

1.4 Emergency telephone number

Telephone number (24H) Chemtrec Emergency Tel No. U.S.A. 800-424-9300, International (001) 703-527-3887

Distributor and Emergency Phone No.

Refer to attached list, Document ID: 472050, for local distributor and emergency phone numbers.

Section 2 Hazards Identification

2.1 Classification of substance or mixture

Product Description Mixture

Colorless; Transparent; Liquid; Odorless

Classification according to EC Directives 1999/45/EC and 67/548/EEC

C;R35

US OSHA Hazardous

WHMIS Exempt

Potential Health Effects Summary May cause burns to the eyes, skin, respiratory tract and gastrointestinal tract. Corrosive effects may be delayed.

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Section 2 Hazards Identification (Continued)

2.2 Label Elements

According to EC Directives (1999/45/EC and 67/548 EEC)

Corrosive
C



Risk and Safety Phrases

R35 Causes severe burns.

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

2.3 Other Hazard

None identified

See Section 11 Toxicological Information for more detailed health information.

Section 3 Composition and Information on Ingredients

3.2 Mixture

Hazardous Ingredients:		Hazard Classification of Pure Ingredients				
Chemical Name	**% by wt.**	**EU-67/548/EEC**	**EU 1272/2008 CLP/GHS**	**US OSHA**	**WHMIS**	
Sulfuric Acid CAS # 7664-93-9 EINECS # 231-639-5 Index # 016-020-00-8	< 5	C;R35	Eye Dam. 1 Skin Corr. 1A H314; H318	Water-Reactive Carcinogen Corrosive Highly Toxic	D1A; E	

See section 8 for available Occupational exposure limits
See Section 15 for additional regulatory information
See Section 16 for hazard class, hazard statements and risk phrase description

Section 4 First Aid Measures

4.1 Description of 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.

4.2 Most important symptoms and effects, both acute and delayed

See Section 11 Toxicological Information for more detailed health information.

4.3 Indication of any immediate medical attention and special treatment needed

No specific medical attention or treatment required.

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Section 5 Fire Fighting Measures

Flammable Properties Nonflammable aqueous solution.

5.1 Extinguishing Media Use extinguishing media suitable for surrounding fire.

5.2 Special hazards arising from the substance or mixture

Special Fire and Explosion Hazards

None identified

Hazardous Combustion Products

No combustion products posing significant hazards are expected from this product (a dilute aqueous solution).

5.3 Advice for fire fighters

Protective Equipment Self-contained breathing apparatus is recommended for firefighters in all chemical fire situations.

5.4 Additional information None

Section 6 Accidental Release Measures

6.1 Personal precaution, protective equipment and emergency procedures

Personal Precautions Avoid inhaling, ingesting, and contact with eyes and skin.

6.2 Environmental Precautions Contain spill to prevent migration.

6.3 Methods and material for containment and cleaning up

Spill and Leak Procedures Absorb spilled material with an appropriate inert, non-flammable absorbent and dispose according to local regulations.

6.4 Reference to other sections Refer sections 8 and 13.

Section 7 Handling and Storage

7.1 Precautions for safe handling Avoid inhaling, ingesting, and contact with eyes and skin.

7.2 Conditions for safe storage, including any incompatibilities

Keep away from incompatible material (see Section 10).
To maintain efficacy, store according to the instructions in the product labeling.

7.3 Specific end uses No data available.

Section 8 Exposure Controls and Personal Protection

8.1 Control parameters

Exposure Limits

US OSHA

Sulfuric Acid CAS # 7664-93-9	1 mg/m3 TWA

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Section 8 Exposure Controls and Personal Protection (Continued)

ACGIH

Sulfuric Acid CAS # 7664-93-9	0.2 mg/m3 TWA (thoracic fraction)

DFG MAK

Sulfuric Acid CAS # 7664-93-9	0.1 mg/m3 Peak (inhalable fraction); 0.1 mg/m3 TWA MAK (inhalable fraction)

Ireland

Sulfuric Acid CAS # 7664-93-9	1 mg/m3 TWA

NIOSH

Sulfuric Acid CAS # 7664-93-9	15 mg/m3 IDLH; 1 mg/m3 TWA

Japan None established

8.2 Exposure controls

Engineering Controls Use in well ventilated area.

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.

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.

Section 9 Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Physical State	Liquid	**Specific Gravity (Water=1.0)**	≈1.009 @20°C
Color	Colorless	**Solubility**	
Transparency	Transparent	**Water**	Miscible
Odor	Odorless	**Organic**	Not determined
pH	1.2 - 1.8 @22-26°C	**Coefficient of Water/Oil Distribution**	Not determined
Freezing Point	Not determined	**Autoignition Temp.**	Not determined
Boiling Point	Not determined	**Decomposition Temperature**	Not determined
Flash Point	Not determined	**Percent Volatiles**	Not determined

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Section 9 Physical and Chemical Properties (Continued)

Evaporation Rate	Not determined	**Vapor Pressure**	Not determined
Flammability (Solid, Gas)	Not applicable	**Viscosity**	Not determined
Flammable Limits	Not determined	**Explosive Properties**	Not applicable
Vapor Density	Not determined	**Oxidizing Properties**	Not determined
Odor Threshold	Sulfuric Acid no geometric mean air odor threshold		

9.2 Other Information None

Section 10 Stability and Reactivity

10.1 Reactivity No data available.

10.2 Chemical Stability Stable under normal temperatures and pressures.

10.3 Possibility of hazardous reactions

No data available.

10.4 Conditions to Avoid Avoid contact with incompatible materials.

10.5 Incompatible materials

Strong oxidizers
Strong acids
Strong bases
Metals and metallic compounds

10.6 Hazardous Decomposition Products

No decomposition products posing significant hazards would be expected from this product (a dilute aqueous solution).

Section 11 Toxicological Information

11.1 Information on toxicological effects

Toxicity Data for Hazardous Ingredients

Sulfuric Acid CAS # 7664-93-9	Inhalation LC50 Mouse 320 mg/m3 2 h; Inhalation LC50 Rat 510 mg/m3 2 h; Inhalation LC50 Rat 347 ppm 1 h; Oral LD50 Rat 2140 mg/kg

Primary Routes of Exposure Eye contact, ingestion, inhalation, and skin contact.

Carcinogenicity Although sulfuric acid is not listed as a carcinogen, strong inorganic mists containing sulfuric acid is listed as "Known Human Carcinogen" by the National Toxicological Program, "Human Sufficient Evidence, Group 1" by the International Agency for Research on Cancer and "A2 - Suspected Human Carcinogen" by the American Conference of Governmental Industrial Hygienists.

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Section 11 Toxicological Information (Continued)

Potential Effects of Acute Exposure

Inhalation of dilute acidic mists may cause respiratory tract irritation or burns to mucous membranes resulting in coughing, choking and difficulty in breathing. Results of skin contact may range from irritation and inflammation to burns with blistering. Eye contact may cause severe irritation with painful, watery eyes or burns with possible blindness. Ingestion may cause irritation or burns to the mouth and throat resulting in pain, difficulty in speaking and swallowing, intense thirst, nausea and vomiting.

Potential Effects of Chronic Exposure

Depending upon concentration and duration of exposure to dilute acidic mist, effects may be similar to those described for acute exposure. Repeated or prolonged contact with dilute acid may result in dermatitis and conjunctivitis with inflamed skin and eyes.

Symptoms of Overexposure Symptoms of overexposure may include: redness, burning and watering of the eyes; dry, red, cracked skin; coughing and difficult breathing; nausea and vomiting.

Conditions Aggravated by Exposure

Individuals with eye, skin or kidney disorders may find these conditions aggravated by exposure to this product.

Other Information Reproductive effects have been reported in animal studies.

Section 12 Ecological Information

12.1 Ecotoxicity

Fresh Water Species

Sulfuric Acid
CAS # 7664-93-9 — 96 h LC50 Brachydanio rerio: >500 mg/L [static]

Microtox No information available.

Water Flea

Sulfuric Acid
CAS # 7664-93-9 — 24 h EC50 Daphnia magna: 29 mg/L

Fresh Water Algae No information available.

12.2 Persistence and degradability No information available.

12.3 Bioaccumulation No information available.

12.4 Mobility in soil No information available.

12.5 Results of PBT and vPvB assessment

Not applicable

12.6 Other Adverse Effects No information available.

Section 13 Disposal Considerations

13.1 Waste treatment methods

Product 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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13.2 Additional information None

Section 14 Transport Information

	Shipping Information	IATA	IMDG	US DOT	European ADR	Canadian TDG
14.1	UN/ID Number	2796	2796	2796	2796	PIN - 2796
14.2	Shipping Name	Sulfuric acid solution				
14.3	Hazard Class	8 Corrosives	8 Corrosive substances	8 Corrosive material	8 Corrosive substances	8 Corrosives
	Subsidiary Risk	None	None	None	None	None
	Classification Code	Not applicable	Not applicable	Not applicable	C1	Not applicable
14.4	Packing Group	II	II	II	II	II
	Special Provisions	None	None	A3, A7, N34	None	None
	Additional information					
	IATA ERG Code	8L	Not applicable	Not applicable	Not applicable	Not applicable
	EmS	Not applicable	F-A, S-B	Not applicable	Not applicable	Not applicable
	NAERG Code	Not applicable	Not applicable	157	Not applicable	157
14.5	Environmental Hazard					
	Marine Pollutant	Not applicable	No	Not applicable	Not applicable	Not applicable

14.6 Special Precautions for users

None

Section 15 Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

US Federal and State Regulations

SARA 313

Formaldehyde is subject to reporting requirements of Section 313, Title III of SARA. 0.1 % de minimis concentration

N-Butyl Alcohol is subject to reporting requirements of Section 313, Title III of SARA. 1.0 % de minimis concentration

Acetaldehyde is subject to reporting requirements of Section 313, Title III of SARA. 0.1 % de minimis concentration

Ethylene Oxide is subject to reporting requirements of Section 313, Title III of SARA. 0.1 % de minimis concentration

1,4-Dioxane is subject to reporting requirements of Section 313, Title III of SARA. 0.1 % de minimis concentration

Sulfuric Acid is subject to reporting requirements of Section 313, Title III of SARA. 1.0 % de minimis concentration

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Section 15 Regulatory Information (Continued)

CERCLA RG's, 40 CFR 302.4

Formaldehyde is listed.

N-Butyl Alcohol is listed.

Acetaldehyde is listed.

Ethylene Oxide is listed.

1,4-Dioxane is listed.

Sulfuric Acid is listed.

California Proposition 65

Formaldehyde has been identified by the State of California to cause cancer. The State of California has adopted a regulation which requires a warning be given to individual who may be exposed to chemicals identified by the State to cause cancer or reproductive harm. Accordingly, Beckman Coulter advises you of the following warning:
WARNING: This product contains a chemical known to the State of California to cause cancer.

Acetaldehyde has been identified by the State of California to cause cancer. The State of California has adopted a regulation which requires a warning be given to individual who may be exposed to chemicals identified by the State to cause cancer or reproductive harm. Accordingly, Beckman Coulter advises you of the following warning:
WARNING: This product contains a chemical known to the State of California to cause cancer.

Ethylene Oxide has been identified by the State of California to cause cancer and reproductive harm. The State of California has adopted a regulation which requires a warning be given to individual who may be exposed to chemicals identified by the State to cause cancer or reproductive harm. Accordingly, Beckman Coulter advises you of the following warning:
WARNING: This product contains a chemical known to the State of California to cause cancer and reproductive harm.

1,4-Dioxane has been identified by the State of California to cause cancer. The State of California has adopted a regulation which requires a warning be given to individual who may be exposed to chemicals identified by the State to cause cancer or reproductive harm. Accordingly, Beckman Coulter advises you of the following warning:
WARNING: This product contains a chemical known to the State of California to cause cancer.

Sulfuric Acid has been identified by the State of California to cause cancer. The State of California has adopted a regulation which requires a warning be given to individual who may be exposed to chemicals identified by the State to cause cancer or reproductive harm. Accordingly, Beckman Coulter advises you of the following warning:
WARNING: This product contains a chemical known to the State of California to cause cancer.

Massachusetts MSL

Formaldehyde is listed.

N-Butyl Alcohol is listed.

Acetaldehyde is listed.

Ethylene Oxide is listed.

1,4-Dioxane is listed.

Sulfuric Acid is listed.

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Section 15 Regulatory Information (Continued)

New Jersey Dept. of Health RTK List

Formaldehyde is listed.
N-Butyl Alcohol is listed.
Acetaldehyde is listed.
Ethylene Oxide is listed.
1,4-Dioxane is listed.
Sulfuric Acid is listed.

Pennsylvania RTK

Formaldehyde is listed.
N-Butyl Alcohol is listed.
Acetaldehyde is listed.
Ethylene Oxide is listed.
1,4-Dioxane is listed.
Sulfuric Acid is listed.

EU Regulations

This SDS complies with EC Regulations 1907/2006 (REACH) and amendments.

Water Hazard Class (Germany) WGK 1, low water endangering

REACH 1907/2006 EC - Annex XIV - list of substances subject to authorization.

No ingredients listed.

Canada

This product is exempt from WHMIS label and SDS requirements.

PIN 2796

Ingredients on Ingredient Disclosure List

Formaldehyde
N-Butyl Alcohol
Acetaldehyde
Ethylene Oxide
1,4-Dioxane
Sulfuric Acid
Ethoxylated lauryl alcohol

Ingredients with unknown toxicological properties

Product is exempt

15.2 Chemical Safety Assessment Not available

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.

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Section 16 Other Information

Beckman Coulter Safety Rating	**Flammability: 0** **Health: 3** **Reactivity with Water: 0** **Contact: 3**	Code 0=None 1=Slight 2=Caution 3=Severe

Revision Changes

Revised per 453/2010 EC and ANSI Z400.1-2004 Standard.

Hazard Class, hazard statements and risk phrase description from section 3

C - Corrosive

R35 Causes severe burns.

D1A - Poisonous and Infections Material: Division 1 - Immediate and Serious Toxic Effects: Very Toxic (Acute Inhalation Toxicity)

E - Corrosive Material

E - TDG Class 8 - corrosive substance

Eye Dam. 1 - Eye Damage Category 1

Skin Corr. 1A - Skin Corrosion Category 1A

H314 - Causes severe skin burns and eye damage.

H318 - Causes serious eye damage.

For further information, please contact your local Beckman Coulter representative.

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