

# ThermoFisher SCIENTIFIC

## Material Safety Data Sheet

Creation Date 30-Dec-2009

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Revision Number 1

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name** Infinity™ CO2 Reagent

**Cat No.** TR28321, TD28301, BU2831-VA20LBP, BU2831-20LBP, IS28300267

**Synonyms** Carbon Dioxide Reagent; Bicarbonate Reagent

**Recommended Use** In vitro diagnostic

**Company** Fisher Diagnostics  
A Division of Fisher Scientific Company, LLC  
A Part of Thermo Fisher Scientific, Inc.  
8365 Valley Pike  
Middletown, VA 22645-1905  
Tel: (800) 528-0494

**Emergency Telephone Number**  
Chemtrec US: (800) 424-9300  
Chemtrec EU: (202) 483-7616

### 2. HAZARDS IDENTIFICATION

#### CAUTION!

#### Emergency Overview

Handle as potentially infectious. May cause eye, skin, and respiratory tract irritation. Handle in accordance with good industrial hygiene and safety practice. The toxicological properties have not been fully investigated.

**Appearance** Clear Colorless

**Physical State** Liquid

**Odor** mild

**Target Organs** None known.

#### Potential Health Effects

#### Acute Effects

#### Principle Routes of Exposure

**Eyes**

May cause irritation.

**Skin**

May cause irritation. May be harmful in contact with skin.

**Inhalation**

May cause irritation of respiratory tract. May be harmful if inhaled.

**Ingestion**

May be harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

#### **Chronic Effects**

None known.

See Section 11 for additional Toxicological information.

**Aggravated Medical Conditions** No information available.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Haz/Non-haz

Component	CAS-No	Weight %
Water	7732-18-5	> 85%
Tris (hydroxymethyl) aminomethane	77-86-1	< 2%
1-Piperazineethanesulfonic acid, 4-(2-hydroxyethyl)-	7365-45-9	< 2%
Acetic acid, aminoxy-, monosodium salt	565-73-1	< 2%
2-Propenoic acid, 2-(phosphonoxy)-, compound with cyclohexanamine (1:1)	10526-80-4	< 2%
Sodium azide	26628-22-8	< 0.1%
Magnesium sulfate	7487-88-9	< 2%
Bovine Serum Albumin	9048-46-8	< 1%
Adenosine 5'-(trihydrogen diphosphate), P'.fwdarw.5'-ester with 1,4-dihydro-1-.beta.-D-ribofuranosyl-3-pyridinecarboxamide, disodium salt	606-68-8	< 2%
Carboxylase, phosphopyruvate (phosphate)	9067-77-0	< 1%
Dehydrogenase, malate	9001-64-3	< 1%
Proprietary ingredient	N/A	< 10%
Proprietary ingredient	N/A	< 1%

### 4. FIRST AID MEASURES

<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.
<b>Inhalation</b>	Move to fresh air. If breathing is difficult, give oxygen. Get medical attention immediately if symptoms occur.
<b>Ingestion</b>	Do not induce vomiting. Obtain medical attention.
<b>Notes to Physician</b>	Treat symptomatically.

### 5. FIRE-FIGHTING MEASURES

<b>Flash Point</b>	Not applicable
<b>Method</b>	No information available.
<b>Autoignition Temperature</b>	No information available.
<b>Explosion Limits</b>	
<b>Upper</b>	No data available
<b>Lower</b>	No data available
<b>Suitable Extinguishing Media</b>	Substance is nonflammable; use agent most appropriate to extinguish surrounding fire..

**Unsuitable Extinguishing Media** No information available.

**Hazardous Combustion Products** No information available.

**Sensitivity to mechanical impact** No information available.  
**Sensitivity to static discharge** No information available.

**Specific Hazards Arising from the Chemical**

Thermal decomposition can lead to release of irritating gases and vapors.

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

**NFPA** Health 1 Flammability 0 Instability 0 Physical hazards N/A

**6. ACCIDENTAL RELEASE MEASURES**

**Personal Precautions** Use personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing.

**Environmental Precautions** Should not be released into the environment.

**Methods for Containment and Clean Up** Soak up with inert absorbent material. Keep in suitable and closed containers for disposal. Clean with disinfectants. Do not flush down the drain. Sodium azide may react with plumbing systems to form highly explosive compounds.

**7. HANDLING AND STORAGE**

**Handling** Handle as potentially infectious. Handle in accordance with good industrial hygiene and safety practice. Wear personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Do not breathe vapors or spray mist. Do not flush down the drain. Sodium azide may react with plumbing systems to form highly explosive compounds.

**Storage** Keep containers tightly closed in a dry, cool and well-ventilated place. Keep at temperatures between 2° and 8 °C.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Engineering Measures** Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

**Exposure Guidelines**

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sodium azide	Ceiling: 0.29 mg/m <sup>3</sup> Ceiling: 0.11 ppm	Skin (Vacated) Ceiling: 0.1 ppm (Vacated) Ceiling: 0.3 mg/m <sup>3</sup>	Ceiling: 0.3 mg/m <sup>3</sup> Ceiling: 0.1 ppm

Component	Quebec	Mexico OEL (TWA)	Ontario TWAEV
Sodium azide	Ceiling: 0.3 mg/m <sup>3</sup> Ceiling: 0.11 ppm		CEV: 0.1 ppm CEV: 0.26 mg/m <sup>3</sup>

**NIOSH IDLH:** *Immediately Dangerous to Life or Health*

**Personal Protective Equipment**

**Eye/face Protection**

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166

**Skin and body protection**

Wear appropriate protective gloves and clothing to prevent skin exposure

**Respiratory Protection**

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State</b>	Liquid
<b>Appearance</b>	Clear Colorless
<b>Odor</b>	mild
<b>Odor Threshold</b>	No information available.
<b>pH</b>	7.95 - 8.15 @ 20°C
<b>Vapor Pressure</b>	No information available.
<b>Vapor Density</b>	No information available.
<b>Viscosity</b>	No information available.
<b>Boiling Point/Range</b>	Not applicable
<b>Melting Point/Range</b>	No information available.
<b>Decomposition temperature °C</b>	No information available.
<b>Flash Point</b>	Not applicable
<b>Evaporation Rate</b>	No information available.
<b>Specific Gravity</b>	No information available.
<b>Solubility</b>	Soluble in water
<b>log Pow</b>	No data available

## 10. STABILITY AND REACTIVITY

<b>Stability</b>	Stable under normal conditions.
<b>Conditions to Avoid</b>	Incompatible products. Excess heat.
<b>Incompatible Materials</b>	Strong oxidizing agents
<b>Hazardous Decomposition Products</b>	Thermal decomposition can lead to release of irritating gases and vapors
<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur
<b>Hazardous Reactions .</b>	Do not flush down the drain. Sodium azide may react with plumbing systems to form highly explosive compounds.

## 11. TOXICOLOGICAL INFORMATION

**Acute Toxicity**

**Product Information** No acute toxicity information is available for this product

**Component Information**

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Water	90 mL/kg ( Rat )	Not listed	Not listed
Tris (hydroxymethyl) aminomethane	5900 mg/kg ( Rat )	Not listed	Not listed
Sodium azide	27 mg/kg ( Rat )	20 mg/kg ( Rabbit ) 50 mg/kg ( Rat )	Not listed
Proprietary ingredient	25800 mg/kg ( Rat )	Not listed	Not listed

**Irritation** No information available.

**Toxicologically Synergistic Products** No information available.

### Chronic Toxicity

**Carcinogenicity** There are no known carcinogenic chemicals in this product

**Sensitization** No information available.

**Mutagenic Effects** No information available.

**Reproductive Effects** No information available.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**Other Adverse Effects** The toxicological properties have not been fully investigated.. See actual entry in RTECS for complete information.

**Endocrine Disruptor Information** No information available

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Magnesium sulfate	EC50 72 h 2700 mg/L	Not listed	= 84000 mg/L EC50 Photobacterium phosphoreum 30 min	EC50 24 h 1700 mg/L

**Persistence and Degradability** No information available

**Bioaccumulation/ Accumulation** No information available

**Mobility** No information available

## 13. DISPOSAL CONSIDERATIONS

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**Waste Disposal Methods**

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification

### 14. TRANSPORT INFORMATION

**DOT** Not regulated

**TDG** Not regulated

**IATA** Not regulated

**IMDG/IMO** Not regulated

### 15. REGULATORY INFORMATION

**International Inventories**

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	CHINA	KECL
Water	X	X	-	231-791-2	-		X	-	X	X	KE-35400 X
Tris (hydroxymethyl) aminomethane	X	X	-	201-064-4	-		X	X	X	X	KE-01403 X
1-Piperazineethanesulfonic acid, 4-(2-hydroxyethyl)-	X	X	-	230-907-9	-		X	-	X	X	-
Acetic acid, aminoxy-, monosodium salt	X	-	X	209-290-5	-		-	-	-	-	-
2-Propenoic acid, 2-(phosphonoxy)-, compound with cyclohexanamine (1:1)	X	X	-	234-084-7	-		-	-	X	-	-
Sodium azide	X	X	-	247-852-1	-		X	X	X	X	KE-31357 X
Magnesium sulfate	X	X	-	231-298-2	-		X	X	X	X	KE-22752 X
Bovine Serum Albumin	XU	X	-	232-936-2	-		X	-	X	X	KE-05-0011 X

15. REGULATORY INFORMATION											
Adenosine 5'-(trihydrogen diphosphate), P'.fwdarw.5'-ester with 1,4-dihydro-1-.beta.-D-ribofuranosyl-3-pyridinecarboxamide, disodium salt	X	X	-	210-123-3	-		-	-	X	-	-
Carboxylase, phosphopyruvate (phosphate)	-	X	-	232-958-2	-		-	-	X	-	-
Dehydrogenase, malate	XU	X	-	232-622-5	-		-	-	X	-	KE-22770 X
Proprietary ingredient	X	X	-	200-075-1	-		X	X	X	X	KE-17727 X
Proprietary ingredient	XU	X	-	232-602-6	-		X	-	X	X	KE-09578 X

**Legend:**

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

S - Indicates a substance that is identified in a proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

**U.S. Federal Regulations**

TSCA 12(b) Not applicable

SARA 313

Component	CAS-No	Weight %	SARA 313 - Threshold Values %
Sodium azide	26628-22-8	< 0.1%	1.0

**SARA 311/312 Hazardous Categorization**

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

**Clean Water Act**

Not applicable

**Clean Air Act**

Not applicable

**OSHA**

Not applicable

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Component	Hazardous Substances RQs	CERCLA EHS RQs
Sodium azide	1000 lb	1000 lb

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**State Right-to-Know**

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Sodium azide	X	X	X	-	X

**U.S. Department of Transportation**

Reportable Quantity (RQ): Y  
 DOT Marine Pollutant N  
 DOT Severe Marine Pollutant N

**U.S. Department of Homeland Security**

This product does not contain any DHS chemicals.

**Other International Regulations**

**Mexico - Grade** No information available

**Canada**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

**WHMIS Hazard Class**

Non-controlled

## 16. OTHER INFORMATION

**Prepared By** Regulatory Affairs  
 Thermo Fisher Scientific  
 Tel: (412) 490-8929

**Creation Date** 30-Dec-2009

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Revision Summary "\*\*\*\*", and red text indicates revision

**Disclaimer**

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

**End of MSDS**