Kit SDS Cover Sheet

Doc. ID: OSR6112-75: Rev. 05
Revised (year/month/day) 2015/03/20

Product Information

Product Name	Total Bilirubin
Part Number	OSR6112, OSR6212, OSR6512, OSR6612

Components

Description	Total Bilirubin Blank R1 Total Bilirubin Color R1

Transport Information

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

BECKMAN COULTER

SAFETY DATA SHEET

Doc. ID: OSR6112-75 Rev. 05
Revised (year/month/day) 2015/03/20

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

1.1 Product Identifier

Product Name Total Bilirubin Blank R1

Part Number Component of P/N OSR6112, OSR6212, OSR6512, OSR6612

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 the 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. Lismeehan O'Callaghan's Mills Co. Clare Ireland Tel: 353 (0)65 6831100

e-mail address SDSNT@beckman.com

Further information Contact:
Customer support Unit, Beckman Coulter Ireland Inc.
Technical Service Department Tel. +001-800-854-3633 (PST)
E-mail CC_Support.ie@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

Tel +353 (0)65 683 1170; 08:00 - 16:30 hrs Mon-Thur, 08:00 - 15:30 hrs Fri (GMT) Tel +001-800-223-0130 (PST)

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 In vitro diagnostic reagent.

Colorless; Clear; Liquid; Pungent

Classification according to EC 1272/2008 (CLP/GHS)

Skin Irritation Category 2
Eye Damage Category 1

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

Not classified as dangerous per EC Directives (1999/45/EC and 67/548 EEC)

Section 2 Hazards Identification (Continued)

Classification according to US-OSHA (HCS 29 CFR 1910.1200) and UN GHS

Skin Irritation Category 2
Eye Damage Category 1

2.2 Label Elements

According to EC 1272/2008 (CLP/GHS), US-OSHA and UN GHS

Hazardous Ingredients

Acetic Acid
Lithium dodecyl sulphate

Pictogram

Signal Word

DANGER

Hazard Statements

H315 Causes skin irritation.
H318 Causes serious eye damage.

Precautionary Statements

P280 Wear protective gloves, protective clothing and eye/face protection.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor/physician.
P332+P313 If skin irritation occurs: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before use.
Product label will display most significant precautionary statements.
For full text of R- phrases: see Section 16.

2.3 Other hazards

Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

See Section 11 Toxicological Information for more detailed health information.

Section 3 Composition and Information on Ingredients

3.2 Mixtures

Hazardous Ingredients:		Hazard Classification of Pure Ingredients			
Chemical Name	**% by wt.**	**EU-67/548/EEC**	**EU 1272/2008 CLP/GHS**	**GHS**	
Lithium dodecyl sulphate CAS # 2044-56-6 EINECS # 218-058-2 Index # Not available	2 - 5	F;R11 Xi;R41-37/38	Eye Dam. 1 Flam. Sol. 2 STOT SE 3 Skin Irrit. 2 H228; H315; H318; H335	Eye Dam. 1 Flam. Sol. 2 STOT SE 3 Skin Irrit. 2 H228; H315; H318; H335	

Section 3 Composition and Information on Ingredients (Continued)

Lithium Acetate CAS # 546-89-4 EINECS # 208-914-3 Index # Not available	1 - 2	Xn;R20/22	Acute Tox. Inhal. 4 Acute Tox. Oral 4 H302; H332	Acute Tox. Inhal. 4 Acute Tox. Oral 4 H302; H332	3, 8
Acetic Acid CAS # 64-19-7 EINECS # 200-580-7 Index # 607-002-00-6	0.1 - 1	C;R10-35	Flam. Liq. 3 Skin Corr. 1A H226; H314	Flam. Liq. 3 Skin Corr. 1A H226; H314	

3 - Health hazard
8 - Present at concentration below the cut-off limits.

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. 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

May cause irritation of skin, eyes, mucous membranes and upper respiratory tract.
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.

Section 5 Fire Fighting Measures

Flammable Properties — Nonflammable aqueous solution.

5.1 Extinguishing Media

In case of fire use carbon dioxide (CO2), dry chemical, water spray or foam.
For large fires use extinguishing media suitable for surrounding fire.

5.2 Special hazards arising from the substance or mixture

Special Fire and Explosion Hazards

No special hazards determined.

Section 5 Fire Fighting Measures (Continued)

Hazardous Combustion Products

No combustion products posing significant hazards are expected from this product (an 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 No further relevant information available.

Section 6 Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Precautions Observe general safety guidelines for protection; avoid eye and skin contact.
Wear protective gloves, protective clothing and eye/face protection.

6.2 Environmental Precautions Contain spill to prevent migration.
Do not allow the undiluted product to enter sewers/surface or ground water.

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 Use good laboratory procedures; avoid eye and skin contact.
Avoid inhaling, ingesting, and contact with eyes and skin.

7.2 Conditions for safe storage, including any incompatibilities

Store at 2 to 8°C , as directed on the product label.
To maintain product quality, store according to the instructions in the product labeling.
Store away from strong acids, strong bases, strong oxidizers and incompatible materials (section 10).

7.3 Specific end uses No further relevant information available.

Section 8 Exposure Controls and Personal Protection

8.1 Control parameters

Exposure Limits

US OSHA

Acetic Acid CAS # 64-19-7	10 ppm TWA; 25 mg/m3 TWA

Section 8 Exposure Controls and Personal Protection (Continued)

ACGIH

Acetic Acid CAS # 64-19-7	15 ppm STEL; 10 ppm TWA

DFG MAK

Acetic Acid CAS # 64-19-7	20 ppm Peak; 50 mg/m3 Peak; 10 ppm TWA MAK; 25 mg/m3 TWA MAK

Ireland

Acetic Acid CAS # 64-19-7	10 ppm TWA; 25 mg/m3 TWA; 15 ppm STEL; 37 mg/m3 STEL

IOELVs None established

NIOSH

Acetic Acid CAS # 64-19-7	50 ppm IDLH; 15 ppm STEL; 37 mg/m3 STEL; 10 ppm TWA; 25 mg/m3 TWA

Japan

Acetic Acid CAS # 64-19-7	10 ppm OEL; 25 mg/m3 OEL

8.2 Exposure controls

Engineering Controls No special engineering controls are required. Use with good general ventilation.

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)**	1.00049
Color	Colorless	**Solubility**	
Transparency	Clear	**Water**	Miscible
Odor	Pungent	**Organic**	Not determined
pH	4.2	**Partition coefficient: n-octanol/water**	Not determined

Section 9 Physical and Chemical Properties (Continued)

Freezing Point	Similar to water, approximately 0 °C	**Auto-ignition Temp.**	Product is not selfigniting
Boiling Point	Similar to water, approximately 100 °C	**Decomposition Temperature**	Not determined
Flash Point	Not applicable	**Percent Volatiles**	Not applicable
Evaporation Rate	Not determined	**Vapor Pressure**	Similar to water, approximately 23 hPa
Flammability (Solid, Gas)	Not applicable	**Viscosity**	Not determined
Flammability Limits	Not applicable	**Explosive Properties**	Not applicable
Vapor Density	Not determined	**Oxidizing Properties**	Not applicable
Odor Threshold	Acetic Acid 0.074 ppm geometric mean air odor threshold = (detectable)		

9.2 Other Information No further relevant information available.

Section 10 Stability and Reactivity

10.1 Reactivity No further relevant information available.

10.2 Chemical Stability The product is stable in accordance with recommended storage conditions.

10.3 Possibility of hazardous reactions

No further relevant information available.

10.4 Conditions to Avoid Avoid contact with incompatible materials.
Avoid exposure to heat and direct sunlight.

10.5 Incompatible materials No further relevant information available.

10.6 Hazardous Decomposition Products

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

Section 11 Toxicological Information

11.1 Information on toxicological effects

Toxicity Data for Hazardous Ingredients

Acetic Acid CAS # 64-19-7	Inhalation LC50 Rat 11.4 mg/L 4 h; Oral LD50 Rat 3310 mg/kg; Dermal LD50 Rabbit 1060 mg/kg
Primary Routes of Exposure	Eye contact, ingestion, inhalation, and skin contact.
Skin Corrosion/Irritation	May cause skin irritation.
Serious eye damage/eye irritation	Causes serious eye damage.

Section 11 Toxicological Information (Continued)

Respiratory/skin sensitization	No data available.
Carcinogenicity	No ingredients in this product are listed as carcinogens by ACGIH, IARC, NTP, OSHA or 1272/2008 EC regulation.
Germ cell mutagenicity	No data available.
Reproductive Toxicity	No data available.

Specific target organ toxicity – single exposure

No data available.

Specific target organ toxicity – repeated exposure

No data available.

Aspiration hazard	No data available.
Other Information	No further relevant information available.

Section 12 Ecological Information

12.1 Ecotoxicity

Fresh Water Species

Acetic Acid CAS # 64-19-7	96 h LC50 Pimephales promelas: 79 mg/L [static]; 96 h LC50 Lepomis macrochirus: 75 mg/L [static]
Microtox	No information available.

Water Flea

Acetic Acid CAS # 64-19-7	24 h EC50 Daphnia magna: 47 mg/L; 48 h EC50 Daphnia magna: 65 mg/L [Static]
Fresh Water Algae	No information available.
12.2 Persistence and degradability	Not determined for the product.
12.3 Bioaccumulation	Not determined for the product.
12.4 Mobility in soil	Not determined for the product.

12.5 Results of PBT and vPvB assessment

Not determined for the product. PBT: Not applicable, vPvB: Not applicable.

12.6 Other Adverse Effects	No further relevant information available.

Section 13 Disposal Considerations

13.1 Waste treatment methods

Product Waste Disposal	Chemical residues and remains should be routinely handled as special waste. This must be disposed of in compliance with anti-pollution and other laws of the country concerned. To ensure compliance we recommend that you contact the relevant (local) authorities and/or an approved waste-disposal company for information.

Package 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.

13.2 Additional information Suggested European waste catalogue 18 01 07 - chemicals other than those mentioned in 18 01 06. Dispose in accordance with national, state and local waste regulations.

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

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

US Federal and State Regulations

SARA 313 No ingredients listed.

CERCLA RG's, 40 CFR 302.4 Acetic Acid is listed.

California Proposition 65 No ingredients listed.

Massachusetts MSL Acetic Acid is listed.

New Jersey Dept. of Health RTK List

Acetic Acid is listed.

Pennsylvania RTK Acetic 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.

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

Not classified as dangerous per EC Directives (1999/45/EC and 67/548 EEC)

Canada

This product is exempt from WHMIS label and SDS requirements.

PIN Not applicable

Ingredients on Ingredient Disclosure List

Acetic Acid

Ingredients with unknown toxicological properties

Product is exempt

15.2 Chemical Safety Assessment A Chemical Safety Assessment has not been carried out.

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: 0** **Health: 3** **Reactivity with Water: 0** **Contact: 3**	Code 0=None 1=Slight 2=Caution 3=Severe

Revision Changes Updated to GHS.

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

C - Corrosive
F - Highly flammable
Xi - Irritant
Xn - Harmful
R10 Flammable.
R35 Causes severe burns.
R11 Highly flammable.
R20/22 Harmful by inhalation and if swallowed.
R41 Risk of serious damage to eyes.
R37/38 Irritating to respiratory system and skin.
Acute Tox. Inhal. 4 - Acute Toxicity Inhalation, Category 4
Acute Tox. Oral 4 - Acute Toxicity Oral, Category 4
Eye Dam. 1 - Eye Damage Category 1
Flam. Liq. 3 - Flammable Liquids, Category 3
Flam. Sol. 2 - Flammable Solids, Category 2
Skin Corr. 1A - Skin Corrosion Category 1A
Skin Irrit. 2 - Skin Irritation Category 2
STOT SE 3 - Specific Target Organ Toxicity Single Exposure Category 3
H226 - Flammable liquid and vapour.
H228 - Flammable solid.
H302 - Harmful if swallowed.
H314 - Causes severe skin burns and eye damage.
H315 - Causes skin irritation.
H318 - Causes serious eye damage.
H332 - Harmful if inhaled.
H335 - May cause respiratory irritation.

Section 16 Other Information (Continued)

Abbreviations and Acronyms

ACGIH - American Conference of Governmental Industrial Hygienists
ADR - European Agreement Concerning The International Carriage Of Dangerous Goods By Road
CERCLA - The Comprehensive Environmental Response, Compensation, and Liability Act
CLP - Classification, Labeling and Packaging
DFGMAK - Republic Germany's maximum exposure limit
GHS - Globally Harmonized System
HCS - Hazard Communication Standard
IARC - Internal Agency for Research on Cancer
IATA - International Air Transport Association
ICAO - International Civil Aviation Organization
IMDG - International Maritime Dangerous Goods
IOELVs - European Unions' Indicative Occupational Exposure Limit Values
NIOSH - National Institute for Occupational Safety and Health
NTP - National Toxicology Program
OSHA - Occupational Safety and Health Administration
PBT - Persistent bioaccumulative and toxic substances
SARA - Superfund Amendments and Reauthorization Act
TDG - Canadian Transportation Of Dangerous Goods Regulations.
UN GHS - United Nations Globally Harmonized System
US DOT - United States Department of Transportation
WHMIS - Workplace Hazardous Material Information System
vPvB - Very persistent and very bioaccumulative substances
LC50 - Lethal Concentration, 50%
LD50 - Lethal Dose, 50%

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

BECKMAN COULTER

SAFETY DATA SHEET

Doc. ID: OSR6112-75 Rev. 05
Revised (year/month/day) 2015/03/20

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

1.1 Product Identifier

Product Name Total Bilirubin Color R1

Part Number Component of P/N OSR6112, OSR6212, OSR6512, OSR6612

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 the 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. Lismeehan O'Callaghan's Mills Co. Clare Ireland Tel: 353 (0)65 6831100

e-mail address SDSNT@beckman.com

Further information Contact:
Customer support Unit, Beckman Coulter Ireland Inc.
Technical Service Department Tel. +001-800-854-3633 (PST)
E-mail CC_Support.ie@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

Tel +353 (0)65 683 1170; 08:00 - 16:30 hrs Mon-Thur, 08:00 - 15:30 hrs Fri (GMT) Tel +001-800-223-0130 (PST)

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

Yellow; Clear; Liquid; Pungent

Classification according to EC 1272/2008 (CLP/GHS)

Skin Irritation Category 2
Eye Damage Category 1

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

Not classified as dangerous per EC Directives (1999/45/EC and 67/548 EEC)

Section 2 Hazards Identification (Continued)

Classification according to US-OSHA (HCS 29 CFR 1910.1200) and UN GHS

Skin Irritation Category 2
Eye Damage Category 1

2.2 Label Elements

According to EC 1272/2008 (CLP/GHS), US-OSHA and UN GHS

Hazardous Ingredients

Acetic Acid
Lithium dodecyl sulphate

Pictogram

Signal Word

DANGER

Hazard Statements

H315 Causes skin irritation.
H318 Causes serious eye damage.

Precautionary Statements

P280 Wear protective gloves, protective clothing and eye/face protection.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor/physician.
P332+P313 If skin irritation occurs: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before use.

2.3 Other hazards

Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

See Section 11 Toxicological Information for more detailed health information.

Section 3 Composition and Information on Ingredients

3.2 Mixtures

Hazardous Ingredients:		Hazard Classification of Pure Ingredients			
Chemical Name	**% by wt.**	**EU-67/548/EEC**	**EU 1272/2008 CLP/GHS**	**GHS**	
Lithium dodecyl sulphate CAS # 2044-56-6 EINECS # 218-058-2 Index # Not available	2 - 5	F;R11 Xi;R41-37/38	Eye Dam. 1 Flam. Sol. 2 STOT SE 3 Skin Irrit. 2 H228; H315; H318; H335	Eye Dam. 1 Flam. Sol. 2 STOT SE 3 Skin Irrit. 2 H228; H315; H318; H335	

Section 3 Composition and Information on Ingredients (Continued)

Lithium Acetate CAS # 546-89-4 EINECS # 208-914-3 Index # Not available	1 - 2	Xn;R20/22	Acute Tox. Inhal. 4 Acute Tox. Oral 4 H302; H332	Acute Tox. Inhal. 4 Acute Tox. Oral 4 H302; H332	3, 8
Acetic Acid CAS # 64-19-7 EINECS # 200-580-7 Index # 607-002-00-6	0.1 - 1	C;R10-35	Flam. Liq. 3 Skin Corr. 1A H226; H314	Flam. Liq. 3 Skin Corr. 1A H226; H314	

3 - Health hazard
8 - Present at concentration below the cut-off limits.

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. 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

May cause irritation of skin, eyes, mucous membranes and upper respiratory tract.
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.

Section 5 Fire Fighting Measures

Flammable Properties — Nonflammable aqueous solution.

5.1 Extinguishing Media

In case of fire use carbon dioxide (CO2), dry chemical, water spray or foam.
For large fires use extinguishing media suitable for surrounding fire.

5.2 Special hazards arising from the substance or mixture

Special Fire and Explosion Hazards

No special hazards determined.

Section 5 Fire Fighting Measures (Continued)

Hazardous Combustion Products

No combustion products posing significant hazards are expected from this product (an 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 No further relevant information available.

Section 6 Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Precautions Observe general safety guidelines for protection; avoid eye and skin contact.
Wear protective gloves, protective clothing and eye/face protection.

6.2 Environmental Precautions Contain spill to prevent migration.
Do not allow the undiluted product to enter sewers/surface or ground water.

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 Use good laboratory procedures; avoid eye and skin contact.
Avoid inhaling, ingesting, and contact with eyes and skin.

7.2 Conditions for safe storage, including any incompatibilities

Store at 2 to 8°C , as directed on the product label.
To maintain product quality, store according to the instructions in the product labeling.
Store away from strong acids, strong bases, strong oxidizers and incompatible materials (section 10).

7.3 Specific end uses No further relevant information available.

Section 8 Exposure Controls and Personal Protection

8.1 Control parameters

Exposure Limits

US OSHA

Acetic Acid CAS # 64-19-7	10 ppm TWA; 25 mg/m3 TWA

Section 8 Exposure Controls and Personal Protection (Continued)

ACGIH

Acetic Acid CAS # 64-19-7	15 ppm STEL; 10 ppm TWA

DFG MAK

Acetic Acid CAS # 64-19-7	20 ppm Peak; 50 mg/m3 Peak; 10 ppm TWA MAK; 25 mg/m3 TWA MAK

Ireland

Acetic Acid CAS # 64-19-7	10 ppm TWA; 25 mg/m3 TWA; 15 ppm STEL; 37 mg/m3 STEL

IOELVs None established

NIOSH

Acetic Acid CAS # 64-19-7	50 ppm IDLH; 15 ppm STEL; 37 mg/m3 STEL; 10 ppm TWA; 25 mg/m3 TWA

Japan

Acetic Acid CAS # 64-19-7	10 ppm OEL; 25 mg/m3 OEL

8.2 Exposure controls

Engineering Controls No special engineering controls are required. Use with good general ventilation.

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)**	Not determined
Color	Yellow	**Solubility**	
Transparency	Clear	**Water**	Miscible
Odor	Pungent	**Organic**	Not determined
pH	4.2	**Partition coefficient: n-octanol/water**	Not determined

Section 9 Physical and Chemical Properties (Continued)

Freezing Point	Similar to water, approximately 0 °C	**Auto-ignition Temp.**	Product is not selfigniting
Boiling Point	Similar to water, approximately 100 °C	**Decomposition Temperature**	Not determined
Flash Point	Not applicable	**Percent Volatiles**	Not applicable
Evaporation Rate	Not determined	**Vapor Pressure**	Similar to water, approximately 23 hPa
Flammability (Solid, Gas)	Not applicable	**Viscosity**	Not determined
Flammability Limits	Not applicable	**Explosive Properties**	Not applicable
Vapor Density	Not determined	**Oxidizing Properties**	Not applicable
Odor Threshold	Acetic Acid 0.074 ppm geometric mean air odor threshold = (detectable)		

9.2 Other Information No further relevant information available.

Section 10 Stability and Reactivity

10.1 Reactivity No further relevant information available.

10.2 Chemical Stability The product is stable in accordance with recommended storage conditions.

10.3 Possibility of hazardous reactions

No further relevant information available.

10.4 Conditions to Avoid Avoid contact with incompatible materials.

10.5 Incompatible materials No further relevant information available.

10.6 Hazardous Decomposition Products

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

Section 11 Toxicological Information

11.1 Information on toxicological effects

Toxicity Data for Hazardous Ingredients

Acetic Acid CAS # 64-19-7	Inhalation LC50 Rat 11.4 mg/L 4 h; Oral LD50 Rat 3310 mg/kg; Dermal LD50 Rabbit 1060 mg/kg
Primary Routes of Exposure	Eye contact, ingestion, inhalation, and skin contact.
Skin Corrosion/Irritation	May cause skin irritation.
Serious eye damage/eye irritation	May cause eye irritation.
Respiratory/skin sensitization	No data available.

Section 11 Toxicological Information (Continued)

Carcinogenicity	No ingredients in this product are listed as carcinogens by ACGIH, IARC, NTP, OSHA or 1272/2008 EC regulation.
Germ cell mutagenicity	No data available.
Reproductive Toxicity	No data available.

Specific target organ toxicity – single exposure

No data available.

Specific target organ toxicity – repeated exposure

No data available.

Aspiration hazard	No data available.
Other Information	No data available.

Section 12 Ecological Information

12.1 Ecotoxicity

Fresh Water Species

Acetic Acid CAS # 64-19-7	96 h LC50 Pimephales promelas: 79 mg/L [static]; 96 h LC50 Lepomis macrochirus: 75 mg/L [static]
Microtox	No information available.

Water Flea

Acetic Acid CAS # 64-19-7	24 h EC50 Daphnia magna: 47 mg/L; 48 h EC50 Daphnia magna: 65 mg/L [Static]
Fresh Water Algae	No information available.
12.2 Persistence and degradability	Not determined for the product.
12.3 Bioaccumulation	Not determined for the product.
12.4 Mobility in soil	Not determined for the product.

12.5 Results of PBT and vPvB assessment

Not determined for the product. PBT: Not applicable, vPvB: Not applicable.

12.6 Other Adverse Effects	This product contains environmentally hazardous substance below the cutoff level. Refer section 3 for ingredient information. Do not allow undiluted product to enter sewer/surface or ground water.

Section 13 Disposal Considerations

13.1 Waste treatment methods

Product Waste Disposal	Chemical residues and remains should be routinely handled as special waste. This must be disposed of in compliance with anti-pollution and other laws of the country concerned. To ensure compliance we recommend that you contact the relevant (local) authorities and/or an approved waste-disposal company for information.

Package 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.

13.2 Additional information Suggested European waste catalogue 18 01 07 - chemicals other than those mentioned in 18 01 06. Dispose in accordance with national, state and local waste regulations.

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

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

US Federal and State Regulations

SARA 313 No ingredients listed.

CERCLA RG's, 40 CFR 302.4 Acetic Acid is listed.

California Proposition 65 No ingredients listed.

Massachusetts MSL Acetic Acid is listed.

New Jersey Dept. of Health RTK List

Acetic Acid is listed.

Pennsylvania RTK Acetic 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.

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

Not classified as dangerous per EC Directives (1999/45/EC and 67/548 EEC)

Canada

This product is exempt from WHMIS label and SDS requirements.

PIN Not applicable

Ingredients on Ingredient Disclosure List

Acetic Acid

Ingredients with unknown toxicological properties

Product is exempt

15.2 Chemical Safety Assessment A Chemical Safety Assessment has not been carried out.

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: 0** **Health: 3** **Reactivity with Water: 0** **Contact: 3**	Code 0=None 1=Slight 2=Caution 3=Severe

Revision Changes Updated to GHS.

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

C - Corrosive
F - Highly flammable
Xi - Irritant
Xn - Harmful
R10 Flammable.
R35 Causes severe burns.
R11 Highly flammable.
R20/22 Harmful by inhalation and if swallowed.
R41 Risk of serious damage to eyes.
R37/38 Irritating to respiratory system and skin.
Acute Tox. Inhal. 4 - Acute Toxicity Inhalation, Category 4
Acute Tox. Oral 4 - Acute Toxicity Oral, Category 4
Eye Dam. 1 - Eye Damage Category 1
Flam. Liq. 3 - Flammable Liquids, Category 3
Flam. Sol. 2 - Flammable Solids, Category 2
Skin Corr. 1A - Skin Corrosion Category 1A
Skin Irrit. 2 - Skin Irritation Category 2
STOT SE 3 - Specific Target Organ Toxicity Single Exposure Category 3
H226 - Flammable liquid and vapour.
H228 - Flammable solid.
H302 - Harmful if swallowed.
H314 - Causes severe skin burns and eye damage.
H315 - Causes skin irritation.
H318 - Causes serious eye damage.
H332 - Harmful if inhaled.
H335 - May cause respiratory irritation.

Section 16 Other Information (Continued)

Abbreviations and Acronyms

ACGIH - American Conference of Governmental Industrial Hygienists
ADR - European Agreement Concerning The International Carriage Of Dangerous Goods By Road
CERCLA - The Comprehensive Environmental Response, Compensation, and Liability Act
CLP - Classification, Labeling and Packaging
DFGMAK - Republic Germany's maximum exposure limit
GHS - Globally Harmonized System
HCS - Hazard Communication Standard
IARC - Internal Agency for Research on Cancer
IATA - International Air Transport Association
ICAO - International Civil Aviation Organization
IMDG - International Maritime Dangerous Goods
IOELVs - European Unions' Indicative Occupational Exposure Limit Values
NIOSH - National Institute for Occupational Safety and Health
NTP - National Toxicology Program
OSHA - Occupational Safety and Health Administration
PBT - Persistent bioaccumulative and toxic substances
SARA - Superfund Amendments and Reauthorization Act
TDG - Canadian Transportation Of Dangerous Goods Regulations.
UN GHS - United Nations Globally Harmonized System
US DOT - United States Department of Transportation
WHMIS - Workplace Hazardous Material Information System
vPvB - Very persistent and very bioaccumulative substances

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