

Kit SDS Cover SheetDoc. ID: B72453: Rev. AA
Issued (year/month/day) 2015/05/08**Product Information**

Product Name	Creatinine Reagent
Part Number	A40920
Series Name	SYNCHRON Systems

Components

Description	Creatinine Reagent (Compartment A) Creatinine Reagent (Compartment B)
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Transport Information

Shipping Information	IATA	IMDG	US DOT	European ADR	Canadian TDG
UN/ID Number	1835	1835	1835	1835	1835
Shipping Name	Tetramethylammonium hydroxide solution				
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	C7	Not applicable
Packing Group	II	II	II	II	II
Special Provisions	A3	None	Not applicable	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	153	Not applicable	153
Environmental Hazards					
Marine Pollutant	Not applicable	No	Not applicable	Not applicable	Not applicable
Special Precautions for user					
Warning: Corrosive substances.					



SAFETY DATA SHEET

Doc. ID: B72453 Rev. AA
Issued (year/month/day) 2015/05/08

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

1.1 Product Identifier

Product Name Creatinine Reagent (Compartment A)
Part Number Component of P/N A40920
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 the supplier of the safety data sheet

Manufacturer

Beckman Coulter, Inc.
250 S. Kraemer Blvd
Brea, CA 92821, U.S.A.
Tel: 800-854-3633

EC REP Address

Beckman Coulter Eurocenter S.A.
22, rue Juste-Oliver, Case Postale 1044,
CH-1260 Nyon 1, Switzerland.
Telephone +41 (0)22 365 36 11
Monday through Friday, 9:00 am to
7:00pm)

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; Clear; Liquid; Odorless

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

Acute Toxicity Oral, Category 2
Acute Toxicity Dermal, Category 3
Skin Corrosion Category 1
Eye Damage Category 1

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

T+;R27-34

SAFETY DATA SHEET

Doc. ID: B72453 Rev. AA
Issued (year/month/day) 2015/05/08

Section 2 Hazards Identification (Continued)

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

Acute Toxicity Oral, Category 2
Acute Toxicity Dermal, Category 3
Skin Corrosion Category 1
Eye Damage Category 1
Toxic to Reproductive Category 1

2.2 Label Elements

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

Hazardous Ingredients

Boric Acid
Tetramethylammonium Hydroxide
Diethanolamine Dodecylsulfate

Pictogram



Signal Word

DANGER

Hazard Statements

H300 Fatal if swallowed.
H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.
H360 May damage fertility or the unborn child.

Precautionary Statements

P201 Obtain special instructions before use.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves, protective clothing and eye/face protection.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P303+P361+P353 IF ON SKIN (or hair): Rinse skin with water.
P304+P340 IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P310 Immediately call a POISON CENTER or doctor/physician.
P361+P364 Take off immediately contaminated clothing and wash it before use.
P363 Wash contaminated clothing before reuse.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/national regulations

SAFETY DATA SHEET

Doc. ID: B72453 Rev. AA
Issued (year/month/day) 2015/05/08

Section 2 Hazards Identification (Continued)

2.3 Other hazards

Product label will display most significant precautionary statements. 1.4% of product contains ingredients of unknown oral toxicity. 1.4% of product contains ingredients of unknown dermal toxicity.

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	
Tetramethylammonium Hydroxide CAS # 75-59-2 EINECS # 200-882-9 Index # Not available	10 - 20	T+;R27-34	Acute Tox. Dermal 2 Acute Tox. Oral 2 Skin Corr. 1B H300; H310; H314	Acute Tox. Dermal 2 Acute Tox. Oral 2 Skin Corr. 1B H300; H310; H314	
Diethanolamine Dodecylsulfate CAS # 143-00-0 EINECS # 205-577-4 Index # Not available	1 - 5	Xi;36/37/38	Eye Irrit. 2 STOT SE 3 Skin Irrit. 2 H315; H319; H335	Eye Irrit. 2 STOT SE 3 Skin Irrit. 2 H315; H319; H335	
Boric Acid CAS # 10043-35-3 EINECS # 233-139-2 Index # Not available	< 5	T;R60-61 Repr. Cat. 2	Repr. 1B H360	Acute Tox. Dermal 5 Acute Tox. Oral 5 Repr. 1B Skin Irrit. 3 H303; H313; H316; H360	SVHC

SVHC - Substance of very high concern

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 and obtain medical attention immediately.

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.

SAFETY DATA SHEET

Doc. ID: B72453 Rev. AA
Issued (year/month/day) 2015/05/08

Section 4 First Aid Measures (Continued)

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

Corrosive. May cause burns to eyes, skin and respiratory tract.
May damage fertility or the unborn child.
May be harmful or fatal if swallowed.
May be harmful or toxic in contact with skin.
See Section 11 Toxicological Information for more detailed health information.

4.3 Indication of any immediate medical attention and special treatment needed

If eye irritation persists: Get medical advice/attention.

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.

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 tightly sealed 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.

SAFETY DATA SHEET

Doc. ID: B72453 Rev. AA
Issued (year/month/day) 2015/05/08

Section 7 Handling and Storage

- 7.1 Precautions for safe handling** Use good laboratory procedures; avoid eye and skin contact.
- 7.2 Conditions for safe storage, including any incompatibilities**
- Store at 8 to 30°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** None established
- ACGIH**
- Boric Acid
CAS # 10043-35-3 6 mg/m3 STEL (inhalable fraction) (listed under Borate compounds, inorganic); 2 mg/m3 TWA (inhalable fraction) (listed under Borate compounds, inorganic)
- DFG MAK**
- Boric Acid
CAS # 10043-35-3 10 mg/m3 Peak (as B) (inhalable fraction); 10 mg/m3 TWA MAK (inhalable fraction) (as B)
- Ireland** None established
- IOELVs** None established
- NIOSH** None established
- Japan** None established
- 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.

SAFETY DATA SHEET

Doc. ID: B72453 Rev. AA
Issued (year/month/day) 2015/05/08

Section 9 Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Physical State	Liquid	Specific Gravity (Water=1.0)	1.001 @20°C
Color	Colorless	Solubility	
Transparency	Clear	Water	Miscible
Odor	Odorless	Organic	Not applicable
pH	13.2 - 13.7	Partition coefficient: n-octanol/water	Not determined
Freezing Point	Not determined	Auto-ignition Temp.	Not applicable
Boiling Point	Not determined	Decomposition Temperature	Not determined
Flash Point	Not applicable	Percent Volatiles	Not applicable
Evaporation Rate	Not determined	Vapor Pressure	Not determined
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	Not applicable		

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** To maintain product performance keep away from strong acids, strong bases, strong oxidizers.
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).

SAFETY DATA SHEET

Doc. ID: B72453 Rev. AA
Issued (year/month/day) 2015/05/08

Section 11 Toxicological Information

11.1 Information on toxicological effects

Toxicity Data for Hazardous Ingredients

Tetramethylammonium Hydroxide Dermal LD50 Rat 112 mg/kg; Oral LD50 Rat 34 - 50 mg/kg
CAS # 75-59-2

Boric Acid Oral LD50 Rat 2660 mg/kg; Inhalation LC50 Rat >0.16 mg/L 4 h; Dermal LD50
CAS # 10043-35-3 Rabbit >2000 mg/kg

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

Skin Corrosion/Irritation Contact may cause severe skin burns.

Serious eye damage/eye irritation Contact may cause serious eye damage.

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 May damage fertility or the unborn child.

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 May be harmful or fatal if swallowed.
May be harmful or toxic in contact with skin.

Section 12 Ecological Information

12.1 Ecotoxicity

Fresh Water Species No information available.

Microtox No information available.

Water Flea

Boric Acid 48 h EC50 Daphnia magna: 115 - 153 mg/L
CAS # 10043-35-3

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.

SAFETY DATA SHEET

Doc. ID: B72453 Rev. AA
Issued (year/month/day) 2015/05/08

Section 12 Ecological Information (Continued)

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 06* - chemicals consisting of or containing dangerous substances. Dispose in accordance with national, state and local waste regulations.

Section 14 Transport Information

Shipping Information	IATA	IMDG	US DOT	European ADR	Canadian TDG
14.1 UN/ID Number	1835	1835	1835	1835	PIN - 1835
14.2 Shipping Name	Tetramethylammonium hydroxide 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	C7	Not applicable
14.4 Packing Group	II	II	II	II	II
Special Provisions	A3	None	Not applicable	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	153	Not applicable	153
14.5 Environmental Hazards					
Marine Pollutant	Not applicable	No	Not applicable	Not applicable	Not applicable

SAFETY DATA SHEET

Doc. ID: B72453 Rev. AA
Issued (year/month/day) 2015/05/08

Section 14 Transport Information (Continued)

Shipping Information	IATA	IMDG	US DOT	European ADR	Canadian TDG
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14.6 Special Precautions for user

Warning: Corrosive substances.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

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

CERCLA RG's, 40 CFR 302.4 *N*-Butyl Alcohol is listed.
Phosphoric Acid is listed.

California Proposition 65 No ingredients listed.

Massachusetts MSL *N*-Butyl Alcohol is listed.
Phosphoric Acid is listed.

New Jersey Dept. of Health RTK List

N-Butyl Alcohol is listed.
Tetramethylammonium Hydroxide is listed.
Phosphoric Acid is listed.

Pennsylvania RTK *N*-Butyl Alcohol is listed.
Phosphoric 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)

Very toxic

T+



Risk and Safety Phrases

R27 Very toxic in contact with skin.

R34 Causes burns.

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

S27 Take off immediately all contaminated clothing.

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S9 Keep container in a well-ventilated place.

Section 15 Regulatory Information (Continued)

Canada

This product is exempt from WHMIS label and SDS requirements.

PIN 1835

Ingredients on Ingredient Disclosure List

N-Butyl Alcohol
Tetramethylammonium Hydroxide
Phosphoric Acid
Boric 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
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Hazard Class, hazard statements and risk phrase description from section 3

T - Toxic
T+ - Very toxic
Repr. Cat. 2 - Toxic for Reproduction Category 2
Xi - Irritant
R27 Very toxic in contact with skin.
R34 Causes burns.
R60 May impair fertility.
R61 May cause harm to unborn child.
Acute Tox. Dermal 2 - Acute Toxicity Dermal, Category 2
Acute Tox. Dermal 5 - Acute Toxicity Dermal, Category 5
Acute Tox. Oral 2 - Acute Toxicity Oral, Category 2
Acute Tox. Oral 5 - Acute Toxicity Oral, Category 5
Eye Irrit. 2 - Eye Irritation Category 2
Skin Corr. 1B - Skin Corrosion Category 1B
Skin Irrit. 2 - Skin Irritation Category 2
Skin Irrit. 3 - Skin Irritation Category 3
STOT SE 3 - Specific Target Organ Toxicity Single Exposure Category 3
Repr. 1B - Toxic to Reproductive Category 1B
H300 - Fatal if swallowed.
H303 - May be harmful if swallowed
H310 - Fatal in contact with skin.

Section 16 Other Information (Continued)

Abbreviations and Acronyms

H313 - May be harmful in contact with skin
H314 - Causes severe skin burns and eye damage.
H315 - Causes skin irritation.
H316 - Causes mild skin irritation.
H319 - Causes serious eye irritation.
H335 - May cause respiratory irritation.
H360 - May damage fertility or the unborn child.

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 - International 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%
EC50 - Effective Concentration, 50%

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SAFETY DATA SHEET

Doc. ID: B72453 Rev. AA
Issued (year/month/day) 2015/05/08

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

1.1 Product Identifier

Product Name Creatinine Reagent (Compartment B)
Part Number Component of P/N A40920
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 the supplier of the safety data sheet

Manufacturer

Beckman Coulter, Inc.
250 S. Kraemer Blvd
Brea, CA 92821, U.S.A.
Tel: 800-854-3633

EC REP Address

Beckman Coulter Eurocenter S.A.
22, rue Juste-Oliver, Case Postale 1044,
CH-1260 Nyon 1, Switzerland.
Telephone +41 (0)22 365 36 11
Monday through Friday, 9:00 am to
7:00pm)

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
Yellow; Clear; Liquid; Odorless

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

Skin Corrosion Category 1
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)

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

Skin Corrosion Category 1
Eye Damage Category 1

SAFETY DATA SHEET

Doc. ID: B72453 Rev. AA
Issued (year/month/day) 2015/05/08

Section 2 Hazards Identification (Continued)

2.2 Label Elements

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

Hazardous Ingredients

Picric Acid

Pictogram



Signal Word

DANGER

Hazard Statements

H314 Causes severe skin burns and eye damage.

Precautionary Statements

P280 Wear protective gloves, protective clothing and eye/face protection.

P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P303+P361+P353 IF ON SKIN (or hair): Rinse skin with water.

P304+P340 IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.

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.

P363 Wash contaminated clothing before reuse.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/national regulations

Product label will display most significant precautionary statements.

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	

SAFETY DATA SHEET

Doc. ID: B72453 Rev. AA
Issued (year/month/day) 2015/05/08

Section 3 Composition and Information on Ingredients (Continued)

Picric Acid CAS # 88-89-1 EINECS # 201-865-9 Index # 609-009-00-X	<1	E;R2-4 T;R23/24/25	Acute Tox. Dermal 3 Acute Tox. Inhal. 3 Acute Tox. Oral 3 Expl. 1.1 H201; H301; H311; H331	Acute Tox. Dermal 3 Acute Tox. Inhal. 3 Acute Tox. Oral 3 Expl. 1.1 H201; H301; H311; H331
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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 and obtain medical attention immediately.
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

Corrosive. May cause burns to eyes, skin and respiratory tract.
See Section 11 Toxicological Information for more detailed health information.

4.3 Indication of any immediate medical attention and special treatment needed

If eye irritation persists: Get medical advice/attention.

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.

Hazardous Combustion Products

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

SAFETY DATA SHEET

Doc. ID: B72453 Rev. AA
Issued (year/month/day) 2015/05/08

Section 5 Fire Fighting Measures (Continued)

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 tightly sealed 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.

7.2 Conditions for safe storage, including any incompatibilities

Store at 8 to 30°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

Picric Acid
CAS # 88-89-1

0.1 mg/m³ TWA; prevent or reduce skin absorption

ACGIH

Picric Acid
CAS # 88-89-1

0.1 mg/m³ TWA

SAFETY DATA SHEET

Doc. ID: B72453 Rev. AA
Issued (year/month/day) 2015/05/08

Section 8 Exposure Controls and Personal Protection (Continued)

DFG MAK

Picric Acid
CAS # 88-89-1

skin notation

Ireland

Picric Acid
CAS # 88-89-1

0.1 mg/m³ TWA; 0.3 mg/m³ STEL; Potential for cutaneous absorption

IOELVs

None established

NIOSH

Picric Acid
CAS # 88-89-1

75 mg/m³ IDLH; 0.3 mg/m³ STEL; 0.1 mg/m³ TWA

Japan

None established

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)	1.003 @20°C
Color	Yellow	Solubility	
Transparency	Clear	Water	Miscible
Odor	Odorless	Organic	Not determined
pH	1.5 - 1.9	Partition coefficient: n-octanol/water	Not determined
Freezing Point	Not determined	Auto-ignition Temp.	Not applicable
Boiling Point	Not determined	Decomposition Temperature	Not determined
Flash Point	Not applicable	Percent Volatiles	Not applicable

SAFETY DATA SHEET

Doc. ID: B72453 Rev. AA
Issued (year/month/day) 2015/05/08

Section 9 Physical and Chemical Properties (Continued)

Evaporation Rate	Not determined	Vapor Pressure	Not determined
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	Not applicable		
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	To maintain product performance keep away from strong acids, strong bases, strong oxidizers. 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	
Picric Acid CAS # 88-89-1	Oral LD50 Rat 200 mg/kg
Primary Routes of Exposure	Eye contact, ingestion, inhalation, and skin contact.
Skin Corrosion/Irritation	Contact may cause severe skin burns.
Serious eye damage/eye irritation	Contact may cause serious eye damage.
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.

SAFETY DATA SHEET

Doc. ID: B72453 Rev. AA
Issued (year/month/day) 2015/05/08

Section 11 Toxicological Information (Continued)

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

No information available.

Microtox

No information available.

Water Flea

No information available.

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.

SAFETY DATA SHEET

Doc. ID: B72453 Rev. AA
Issued (year/month/day) 2015/05/08

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

California Proposition 65 No ingredients listed.

Massachusetts MSL Picric Acid is listed.

New Jersey Dept. of Health RTK List

Picric Acid is listed.

Pennsylvania RTK Picric 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

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

E - Explosive

T - Toxic

R2 Risk of explosion by shock, friction, fire or other sources of ignition.

R4 Forms very sensitive explosive metallic compounds.

SAFETY DATA SHEET

Doc. ID: B72453 Rev. AA
Issued (year/month/day) 2015/05/08

Section 16 Other Information (Continued)

R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.

Acute Tox. Dermal 3 - Acute Toxicity Dermal, Category 3

Acute Tox. Inhal. 3 - Acute Toxicity Inhalation, Category 3

Acute Tox. Oral 3 - Acute Toxicity Oral, Category 3

Expl. 1.1 - Explosives, Division 1.1

H201 - Explosive; mass explosion hazard.

H301 - Toxic if swallowed.

H311 - Toxic in contact with skin.

H331 - Toxic if inhaled.

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 - International 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

LD50 - Lethal Dose, 50%

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