The Creatinine Companion Kit

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
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SECTION 1: Identification

1.1. Identification

Product form	:	Mixture
Product name	:	The Creatinine Companion Kit
Product code	:	1012

1.2. Recommended use and restrictions on use

Use of the substance/mixture	:	For laboratory and manufacturing use only
Restrictions on use	:	Not for food, drug or household use

1.3. Supplier

Exocell
Ethos Biosciences, Inc.
2070 Center Square Road
Logan Township, New Jersey 08085
United States
T +1-856-224-0900; +1-800-441-0366 Technical Service; Monday-Friday: 8:00 AM-5:00 PM, Eastern US Time
www.ethosbiosciences.com

1.4. Emergency telephone number

Emergency number	:	800-424-9300 CHEMTREC (USA) -- 24 Hours/Day, 7 Days/Week

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Not classified

2.2. GHS Label elements, including precautionary statements

GHS US labeling

No labeling applicable

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

105% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral)
103% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal)

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
Water	CAS-No.: 7732-18-5	90 – 99	Not classified
sodium hydroxide	CAS-No.: 1310-73-2	< 5	Met. Corr. 1, H290 Acute Tox. 4 (Dermal), H312 Skin Corr. 1, H314 Eye Dam. 1, H318
acetic acid	CAS-No.: 64-19-7	< 3	Flam. Liq. 3, H226 Eye Dam. 1, H318
creatinine	CAS-No.: 60-27-5	0 – 1	Not classified
picric acid	CAS-No.: 88-89-1	< 0.5	Expl. 1.1, H201 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 Acute Tox. 3 (Inhalation:dust,mist), H331 Skin Corr. 1, H314 Eye Dam. 1, H318
Creatinine Assay Plates (2)	-		Not classified

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : If you feel unwell, seek medical advice.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Wash skin with plenty of water.
First-aid measures after eye contact : Rinse eyes with water as a precaution.
First-aid measures after ingestion : Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation : Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.
Symptoms/effects after skin contact : None under normal conditions.
Symptoms/effects after eye contact : None under normal conditions.
Symptoms/effects after ingestion : None under normal conditions.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard : No fire hazard.
Explosion hazard : No direct explosion hazard.

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage.

6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.

Emergency procedures : Ventilate spillage area.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

Emergency procedures : Evacuate unnecessary personnel. Stop leak if safe to do so.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak, if possible without risk.

Methods for cleaning up : Take up liquid spill into absorbent material.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Not expected to present a significant hazard under anticipated conditions of normal use.

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Keep in a cool, well-ventilated place away from heat.

Storage conditions : Keep cool. Protect from sunlight.

Packaging materials : Store always product in container of same material as original container.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

sodium hydroxide (1310-73-2)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL C	2 mg/m³

acetic acid (64-19-7)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	10 ppm
ACGIH OEL STEL	15 ppm

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:
Wear recommended personal protective equipment.

Hand protection:
Protective gloves

Eye protection:
Safety glasses

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Color : No data available
Odor : No data available
Odor threshold : No data available
pH : No data available
Melting point : Not applicable
Freezing point : No data available
Boiling point : No data available
Flash point : No data available
Relative evaporation rate (butyl acetate=1) : No data available
Flammability (solid, gas) : Not applicable.
Vapor pressure : No data available
Relative vapor density at 20°C : No data available

Relative density	:	No data available
Solubility	:	No data available
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosion limits	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available

creatinine	
Boiling point	Not applicable
Flash point	Not applicable (solid)
Vapor pressure	0.00000163 hPa (25 °C, Calculated)

sodium hydroxide	
Boiling point	1388 °C (1013 hPa)
Flash point	Not applicable (solid)
Auto-ignition temperature	No data available in the literature
Vapor pressure	< 0.01 hPa (25 °C)

picric acid	
Auto-ignition temperature	300 °C (T3)

acetic acid	
Boiling point	118 °C (1013 hPa)
Flash point	39 °C (1013 hPa)
Auto-ignition temperature	463 °C (1013 hPa, T1)
Vapor pressure	21 hPa (25 °C)
Vapor pressure at 50°C	78 hPa (Antoine equation)

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

The Creatinine Companion Kit	
Unknown acute toxicity (GHS US)	105% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral) 103% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal)

sodium hydroxide (1310-73-2)	
ATE US (dermal)	1100 mg/kg body weight

picric acid (88-89-1)	
ATE US (oral)	100 mg/kg body weight
ATE US (dermal)	300 mg/kg body weight
ATE US (gases)	700 ppmV/4h
ATE US (vapors)	3 mg/l/4h
ATE US (dust, mist)	0.5 mg/l/4h

acetic acid (64-19-7)	
LD50 oral rat	3310 mg/kg body weight (Rat, Male / female, Experimental value, Oral, 6 day(s))
LC50 Inhalation - Rat	11.4 mg/l (Equivalent or similar to OECD 403, 4 h, Rat, Female, Experimental value, Inhalation (vapours), 14 day(s))
ATE US (oral)	3310 mg/kg body weight
ATE US (vapors)	11.4 mg/l/4h
ATE US (dust, mist)	11.4 mg/l/4h

Skin corrosion/irritation : Not classified

creatinine (60-27-5)	
pH	8.5 – 9 (5 %)

sodium hydroxide (1310-73-2)	
pH	14 (5 %)

picric acid (88-89-1)	
pH	1.3

acetic acid (64-19-7)	
pH	2.4 (0.1 mol/l)

Serious eye damage/irritation : Not classified

creatinine (60-27-5)	
pH	8.5 – 9 (5 %)

sodium hydroxide (1310-73-2)	
pH	14 (5 %)

picric acid (88-89-1)	
pH	1.3

acetic acid (64-19-7)	
pH	2.4 (0.1 mol/l)

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

Viscosity, kinematic : No data available

sodium hydroxide (1310-73-2)	
Viscosity, kinematic	No data available in the literature

acetic acid (64-19-7)	
Viscosity, kinematic	1.02 mm^2/s (25 °C, Calculated)

Symptoms/effects after inhalation : Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.

Symptoms/effects after skin contact : None under normal conditions.

Symptoms/effects after eye contact : None under normal conditions.

Symptoms/effects after ingestion : None under normal conditions.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

creatinine (60-27-5)	
EC50 - Crustacea [1]	> 1000 mg/l (EU Method C.2, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Lethal)
ErC50 algae	> 100 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Nominal concentration)

sodium hydroxide (1310-73-2)	
LC50 - Fish [1]	189 mg/l (48 h, Leuciscus idus, Fresh water, Experimental value)
EC50 - Crustacea [1]	40 mg/l (48 h, Ceriodaphnia sp., Experimental value, Locomotor effect)

picric acid (88-89-1)	
LC50 - Fish [1]	170 mg/l (96 h, Lepomis macrochirus, Pure substance)
EC50 - Crustacea [1]	112 mg/l (Daphnia magna, Pure substance)

acetic acid (64-19-7)	
LC50 - Fish [1]	> 1000 mg/l (Equivalent or similar to OECD 203, 96 h, Oncorhynchus mykiss, Semi-static system, Fresh water, Experimental value, GLP)
EC50 - Crustacea [1]	> 1000 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, GLP)
ErC50 algae	> 1000 mg/l (ISO 10253, 72 h, Skeletonema costatum, Static system, Salt water, Experimental value, Nominal concentration)

12.2. Persistence and degradability

The Creatinine Companion Kit	
Persistence and degradability	Not rapidly degradable

creatinine (60-27-5)	
Persistence and degradability	Readily biodegradable in water.

Water (7732-18-5)	
Persistence and degradability	Not rapidly degradable

sodium hydroxide (1310-73-2)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

picric acid (88-89-1)	
Persistence and degradability	Non degradable in the soil,Not readily biodegradable in water.
Chemical oxygen demand (COD)	0.92 g O_2/g substance
ThOD	0.98 g O_2/g substance

acetic acid (64-19-7)	
Persistence and degradability	Readily biodegradable in the soil,Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.6 – 0.74 g O_2/g substance
Chemical oxygen demand (COD)	1.03 g O_2/g substance
ThOD	1.07 g O_2/g substance

Creatinine Assay Plates (2)	
Persistence and degradability	Not rapidly degradable

12.3. Bioaccumulative potential

creatinine (60-27-5)	
Partition coefficient n-octanol/water (Log Pow)	-1.76 (Experimental value)
Bioaccumulative potential	Not bioaccumulative.

sodium hydroxide (1310-73-2)	
Bioaccumulative potential	Not bioaccumulative.

picric acid (88-89-1)	
Partition coefficient n-octanol/water (Log Pow)	2.03
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

acetic acid (64-19-7)	
BCF - Fish [1]	3.16 (Pisces, Fresh water, QSAR)
Partition coefficient n-octanol/water (Log Pow)	-0.17 (Experimental value, 25 °C)
Bioaccumulative potential	Not bioaccumulative.

12.4. Mobility in soil

creatinine (60-27-5)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.649 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Highly mobile in soil.

sodium hydroxide (1310-73-2)	
Surface tension	No data available in the literature
Ecology - soil	No (test)data on mobility of the substance available.

acetic acid (64-19-7)	
Surface tension	26 mN/m (30 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.062 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Highly mobile in soil. May be harmful to plant growth, blooming and fruit formation.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Regional waste regulation : Disposal must be done according to official regulations.
Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations : Disposal must be done according to official regulations.
Product/Packaging disposal recommendations : Disposal must be done according to official regulations.
Additional information : Do not re-use empty containers.

SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

14.1. UN number

Not regulated for transport

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Not regulated
Proper Shipping Name (TDG) : Not regulated
Proper Shipping Name (IMDG) : Not regulated
Proper Shipping Name (IATA) : Not regulated

14.3. Transport hazard class(es)

DOT
Transport hazard class(es) (DOT) : Not regulated

TDG
Transport hazard class(es) (TDG) : Not regulated

IMDG
Transport hazard class(es) (IMDG) : Not regulated

IATA
Transport hazard class(es) (IATA) : Not regulated

14.4. Packing group

Packing group (DOT) : Not regulated
Packing group (TDG) : Not regulated
Packing group (IMDG) : Not regulated
Packing group (IATA) : Not regulated

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

DOT
Not regulated

TDG
Not regulated

IMDG
Not regulated

IATA
Not regulated

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. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory, except for:		
creatinine	CAS-No. 60-27-5	0 – 1%
sodium hydroxide	CAS-No. 1310-73-2	< 5%
picric acid	CAS-No. 88-89-1	< 0.5%

acetic acid	CAS-No. 64-19-7	< 3%
Creatinine Assay Plates (2)	CAS-No.	%

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

15.2. International regulations

CANADA

Water (7732-18-5)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

Water (7732-18-5)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Full text of H-phrases	
H201	Explosive; mass explosion hazard
H226	Flammable liquid and vapor
H290	May be corrosive to metals
H301	Toxic if swallowed
H311	Toxic in contact with skin
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H331	Toxic if inhaled

Safety Data Sheet (SDS), USA

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