



METABOLOMICS STANDARD MIX 1

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 21/05/2021

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Version: 2.0

MSK-MET1-1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixtures
Product name : METABOLOMICS STANDARD MIX 1
Product code : MSK-MET1-1

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

1.2.1. Relevant identified uses

Main use category : Professional use
Industrial/Professional use spec : For professional use only

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Cambridge Isotope Laboratories, Inc.
50 Frontage Road
Andover, MA 01810
USA

USA: 1-800-322-1174 Int: 1-978-749-8000
cilsales@isotope.com www.isotope.com

Emergency telephone number

Emergency numbers:

Chemtrec: 1-800-424-9300 (24 hours)
International: 1-703-741-5970 (24 hours)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Not classified

GHS-US classification

Not classified

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labeling according to Regulation (EC) No. 1272/2008 [CLP]

No labeling applicable

GHS-US labeling

No labeling applicable

2.3. Other hazards

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

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3.2. Mixtures

Name	Product identifier	%	Classification according to Directive 67/548/EEC
D-GLUCOSE (U-13C6, 99%)	(CAS-No.) 110187-42-3 (EC-No.) 200-075-1 (Unlabeled)	84.3	Not classified
2-DEOXY-D-GLUCOSE UNLABELED	(CAS-No.) 154-17-6 (EC-No.) 205-823-0 (EC Index-No.)	9.29	Not classified
L-ALANINE (2,3,3,3-D4, 98%)	(CAS-No.) 18806-29-6 (EC-No.) 200-273-8 (Unlabeled)	2.11	Not classified
UREA (15N2, 98%+)	(CAS-No.) 2067-80-3 (EC-No.) 200-315-5 (Unlabeled) (REACH-no) 01-2119463277-33	1.41	Not classified
L-GLUTAMINE (2,3,3,4,4-D5, 97%)	(CAS-No.) 14341-78-7 (EC-No.) 200-292-1 (Unlabeled) (EC Index-No.)	1.37	Not classified
L-LEUCINE (5,5,5-D3, 99%)	(CAS-No.) 87828-86-2 (EC-No.) 200-522-0 (Unlabeled)	0.76	Not classified
SODIUM BUTYRATE (D7, 98%)	(CAS-No.) 156-54-7 (Unlabeled) (EC-No.) 205-857-6 (Unlabeled)	0.27	Xi; R36/37/38 Muta.Cat.3; R68
SODIUM PROPIONATE (D5, 98%)	(CAS-No.) 202529-18-8 (EC-No.) 205-290-4 (Unlabeled) (EC Index-No.)	0.23	Xn; R21
CREATININE (N-METHYL-D3, 98%)	(CAS-No.) 143827-20-7 (EC-No.) 200-466-7 (Unlabeled)	0.1	Not classified
L-PHENYLALANINE (RING-D5, 98%)	(CAS-No.) 56253-90-8 (EC-No.) 200-568-1 (Unlabeled) (EC Index-No.)	0.1	Not classified
L-CARNITINE (TRIMETHYL-D9, 98%)	(CAS-No.) 1268-27-79-0 (EC-No.) 208-768-0 (Unlabeled)	0.08	Xi; R36/37/38

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
D-GLUCOSE (U-13C6, 99%)	(CAS-No.) 110187-42-3 (EC-No.) 200-075-1 (Unlabeled)	84.3	Not classified
2-DEOXY-D-GLUCOSE UNLABELED	(CAS-No.) 154-17-6 (EC-No.) 205-823-0 (EC Index-No.)	9.29	Not classified
L-ALANINE (2,3,3,3-D4, 98%)	(CAS-No.) 18806-29-6 (EC-No.) 200-273-8 (Unlabeled)	2.11	Not classified
UREA (15N2, 98%+)	(CAS-No.) 2067-80-3 (EC-No.) 200-315-5 (Unlabeled) (REACH-no) 01-2119463277-33	1.41	Not classified
L-GLUTAMINE (2,3,3,4,4-D5, 97%)	(CAS-No.) 14341-78-7 (EC-No.) 200-292-1 (Unlabeled) (EC Index-No.)	1.37	Not classified
L-LEUCINE (5,5,5-D3, 99%)	(CAS-No.) 87828-86-2 (EC-No.) 200-522-0 (Unlabeled)	0.76	Not classified
SODIUM BUTYRATE (D7, 98%)	(CAS-No.) 156-54-7 (Unlabeled) (EC-No.) 205-857-6 (Unlabeled)	0.27	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Muta. 2, H341 STOT SE 3, H335
SODIUM PROPIONATE (D5, 98%)	(CAS-No.) 202529-18-8 (EC-No.) 205-290-4 (Unlabeled) (EC Index-No.)	0.23	Acute Tox. 4 (Dermal), H312
CREATININE (N-METHYL-D3, 98%)	(CAS-No.) 143827-20-7 (EC-No.) 200-466-7 (Unlabeled)	0.1	Not classified
L-PHENYLALANINE (RING-D5, 98%)	(CAS-No.) 56253-90-8 (EC-No.) 200-568-1 (Unlabeled) (EC Index-No.)	0.1	Not classified
L-CARNITINE (TRIMETHYL-D9, 98%)	(CAS-No.) 1268-27-79-0 (EC-No.) 208-768-0 (Unlabeled)	0.08	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335

Name	Product identifier	%	GHS-US classification
D-GLUCOSE (U-13C6, 99%)	(CAS-No.) 110187-42-3	84.3	Not classified
2-DEOXY-D-GLUCOSE UNLABELED	(CAS-No.) 154-17-6	9.29	Not classified
L-ALANINE (2,3,3,3-D4, 98%)	(CAS-No.) 18806-29-6	2.11	Not classified
UREA (15N2, 98%+)	(CAS-No.) 2067-80-3	1.41	Not classified
L-GLUTAMINE (2,3,3,4,4-D5, 97%)	(CAS-No.) 14341-78-7	1.37	Not classified
L-LEUCINE (5,5,5-D3, 99%)	(CAS-No.) 87828-86-2	0.76	Not classified
SODIUM BUTYRATE (D7, 98%)	(CAS-No.) 156-54-7 (Unlabeled)	0.27	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Muta. 2, H341 STOT SE 3, H335

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Name	Product identifier	%	GHS-US classification
SODIUM PROPIONATE (D5, 98%)	(CAS-No.) 202529-18-8	0.23	Acute Tox. 4 (Dermal), H312
CREATININE (N-METHYL-D3, 98%)	(CAS-No.) 143827-20-7	0.1	Not classified
L-PHENYLALANINE (RING-D5, 98%)	(CAS-No.) 56253-90-8	0.1	Not classified
L-CARNITINE (TRIMETHYL-D9, 98%)	(CAS-No.) 1268-27-79-0	0.08	Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335

Full text of R- and H- phrases: 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 (show the label where possible). Evacuate danger area.
First-aid measures after inhalation	: When symptoms occur: go into open air and ventilate suspected area. If not breathing give artificial respiration. Get medical advice/attention.
First-aid measures after skin contact	: Wash with plenty of soap and water. and soap. Get immediate medical advice/attention.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes.
First-aid measures after ingestion	: Never give anything by mouth to an unconscious person. Rinse mouth out with water. Get medical advice/attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation	: May be harmful if inhaled. May cause respiratory irritation.
Symptoms/effects after skin contact	: May be harmful in contact with skin. May cause moderate irritation.
Symptoms/effects after eye contact	: May cause eye irritation.
Symptoms/effects after ingestion	: May be harmful if swallowed.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry chemical powder, alcohol-resistant foam, carbon dioxide (CO₂).

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

Firefighting instructions	: Fight fire with normal precautions from a reasonable distance. Wear a self contained breathing apparatus. Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection. Wear recommended personal protective equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Avoid breathing vapors, mist, gas. Avoid dust formation.

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".

6.2. Environmental precautions

Prevent entry to sewers and public waters. Do not allow to enter drains or water courses. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment	: Take up mechanically (sweeping, shoveling) and collect in suitable container for disposal.
Methods for cleaning up	: This material and its container must be disposed of in a safe way, and as per local legislation.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Provide adequate ventilation to minimize dust and/or vapor concentrations.

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Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Store in a well-ventilated place. Keep container tightly closed.
Storage conditions : Store refrigerated (-5 °C to 5 °C). Protect from light.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

UREA (15N2, 98%+) (2067-80-3)

Italy - Portugal - USA ACGIH Remark (ACGIH)

UREA TWA 10 mg/m³ USA. Workplace Environmental Exposure Levels (WEEL)

8.2. Exposure controls

Appropriate engineering controls : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

Personal protective equipment : Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus.



Materials for protective clothing : Wear suitable protective clothing and gloves.

Hand protection : Wear suitable protective clothing and gloves.

Eye protection : Wear eye protection. Chemical goggles or face shield with safety glasses.

Skin and body protection : Wear suitable protective clothing, gloves and eye/face protection.

Respiratory protection : In case of inadequate ventilation wear respiratory protection. Approved supplied air respirator.

Environmental exposure controls : Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

The properties listed below are for the solvent, the main component of this mixture.

Physical state : Solid

Appearance : Solid

Color : White to off-white

Odor : No data available

Odor threshold : No data available

pH : No data available

Relative evaporation rate (butyl acetate=1) : No data available

Melting point : No data available

Freezing point : No data available

Boiling point : No data available

Flash point : No data available

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Flammability (solid, gas) : No data available

Vapor pressure : No data available

Relative vapor density at 20 °C : No data available

Relative density : No data available

Solubility : No data available

Log Pow : No data available

Log Kow : No data available

Viscosity, kinematic : No data available

Viscosity, dynamic : No data available

Explosive properties : No data available

Oxidizing properties : No data available

Explosion limits : No data available

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9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

See storage and expiration date on CoA.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

Carbon oxides (CO, CO₂).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

D-GLUCOSE (U-13C6, 99%) (110187-42-3)

LD50 oral rat	25800 mg/kg	Remarks: Behavioral: Coma. Cyanosis. Diarrhea.
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L-CARNITINE (TRIMETHYL-D9, 98%) (1268-27-79-0)

LD50 oral rat	> 5000 mg/kg
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L-GLUTAMINE (2,3,3,4,4-D5, 97%) (14341-78-7)

LD50 oral rat	7500 mg/kg
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L-ALANINE (2,3,3,3-D4, 98%) (18806-29-6)

LD50 oral rat	> 5110 mg/kg male and female
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L-LEUCINE (5,5,5-D3, 99%) (87828-86-2)

LD50 oral rat	> 16000 mg/kg male and female
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LD50 Intraperitoneal - Rat - 5,379 mg/kg	Lungs, Thorax, or Respiration: Dyspnea. Nutritional and Gross Metabolic: Changes in: Body temperature decrease.
Remarks	

SODIUM PROPIONATE (D5, 98%) (202529-18-8)

LD50 oral	6332 mg/kg mouse
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LD50 dermal rabbit	1640 mg/kg
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ATE CLP (dermal)	1640.000 mg/kg body weight
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L-PHENYLALANINE (RING-D5, 98%) (56253-90-8)

LD50 Intraperitoneal - Rat - 5,287 mg/kg	Lungs, Thorax, or Respiration: Dyspnea. Nutrition and Gross Metabolic: Changes in: Body temperature decrease.
Remarks	

UREA (15N2, 98%+) (2067-80-3)

LD50 oral rat	8471 mg/kg
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2-DEOXY-D-GLUCOSE UNLABELED (154-17-6)

LD50, Subcutaneous, rat	250 mg/kg
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Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Not classified

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity – single exposure : Not classified

Specific target organ toxicity – repeated exposure : Not classified

L-LEUCINE (5,5,5-D3, 99%) (87828-86-2)

NOAEL (oral, rat, 90 days)	3840 mg/kg bodyweight/day female
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Aspiration hazard : Not classified

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Potential Adverse human health effects and symptoms	: This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
Symptoms/effects after inhalation	: May be harmful if inhaled. May cause respiratory irritation.
Symptoms/effects after skin contact	: May be harmful in contact with skin. May cause moderate irritation.
Symptoms/effects after eye contact	: May cause eye irritation.
Symptoms/effects after ingestion	: May be harmful if swallowed.

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.

L-ALANINE (2,3,3,3-D4, 98%) (18806-29-6)

EC50 Daphnia 1	> 100 mg/l static test EC50 - Daphnia magna (Water flea) - 48 h (OECD Test Guideline 202)
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SODIUM PROPIONATE (D5, 98%) (202529-18-8)

LC50 fish 1	4740 mg/l Pimephales promelas (fathead minnow) - 96 h
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UREA (15N2, 98%+) (2067-80-3)

LC50 fish 1	17500 mg/l Poecilia reticulata (guppy) - 96 h
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EC50 Daphnia 1	3910 mg/l Daphnia magna (Water flea) - 48 h
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SODIUM BUTYRATE (D7, 98%) (156-54-7 (Unlabeled))

LC50 fish 1	5000 mg/l Lepomis macrochirus - 24 h
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EC50 Daphnia 1	1950 mg/l Daphnia magna (Water flea) - 24 h
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12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

L-GLUTAMINE (2,3,3,4,4-D5, 97%) (14341-78-7)

Log Pow	-4.609
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L-ALANINE (2,3,3,3-D4, 98%) (18806-29-6)

Log Pow	-2.74 at 20 °C (68 °F)
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UREA (15N2, 98%+) (2067-80-3)

Log Pow	-2.59 - -1.59
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12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste) : Waste materials should be disposed of under conditions which meet Federal, State, and local environmental control regulations.

Product/Packaging disposal recommendations : Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Ecology - waste materials : Dispose of as unused product.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

Not applicable

14.2. UN proper shipping name

Not applicable

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14.3. Additional information

Other information : No supplementary information available.

Overland transport

No additional information available

Transport by sea

No additional information available

Air transport

No additional information available

14.4. Environmental hazards

Other information : No supplementary information available.

14.5. Special precautions for user

14.6. 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

METABOLOMICS STANDARD MIX 1	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.
D-GLUCOSE (U-13C6, 99%) (110187-42-3)	
Not listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.
L-CARNITINE (TRIMETHYL-D9, 98%) (1268-27-79-0)	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313
CREATININE (N-METHYL-D3, 98%) (143827-20-7)	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.
L-GLUTAMINE (2,3,3,4,4-D5, 97%) (14341-78-7)	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313
L-ALANINE (2,3,3,3-D4, 98%) (18806-29-6)	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.
L-LEUCINE (5,5,5-D3, 99%) (87828-86-2)	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.
SODIUM PROPIONATE (D5, 98%) (202529-18-8)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.

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L-PHENYLALANINE (RING-D5, 98%) (56253-90-8)	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.
UREA (15N2, 98%+) (2067-80-3)	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.
SODIUM BUTYRATE (D7, 98%) (156-54-7 (Unlabeled))	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.
2-DEOXY-D-GLUCOSE UNLABELED (154-17-6)	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.

15.2. International regulations

CANADA

METABOLOMICS STANDARD MIX 1	
Listed on the Canadian DSL (Domestic Substances List)	
SODIUM PROPIONATE (D5, 98%) (202529-18-8)	
Listed on the Canadian DSL (Domestic Substances List)	

15.2.1. National regulations

D-GLUCOSE (U-13C6, 99%) (110187-42-3)	
Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)	
SODIUM PROPIONATE (D5, 98%) (202529-18-8)	

15.3. US State regulations

METABOLOMICS STANDARD MIX 1()				
U.S. - California - Proposition 65 - Carcinogens List	No			
U.S. - California - Proposition 65 - Developmental Toxicity	No			
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No			
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No			
State or local regulations	U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List			
D-GLUCOSE (U-13C6, 99%) (110187-42-3)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	
L-CARNITINE (TRIMETHYL-D9, 98%) (1268-27-79-0)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	

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CREATININE (N-METHYL-D3, 98%) (143827-20-7)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	
L-GLUTAMINE (2,3,3,4,4-D5, 97%) (14341-78-7)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	
L-ALANINE (2,3,3,3-D4, 98%) (18806-29-6)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	
L-LEUCINE (5,5,5-D3, 99%) (87828-86-2)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	
SODIUM PROPIONATE (D5, 98%) (202529-18-8)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	
L-PHENYLALANINE (RING-D5, 98%) (56253-90-8)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	
UREA (15N2, 98%+) (2067-80-3)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	
SODIUM BUTYRATE (D7, 98%) (156-54-7 (Unlabeled))				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	
2-DEOXY-D-GLUCOSE UNLABELED (154-17-6)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	
D-GLUCOSE (U-13C6, 99%) (110187-42-3)				
State or local regulations				
U.S. - Pennsylvania - RTK (Right to Know) List				
U.S. - New Jersey - Right to Know Hazardous Substance List				

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Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

L-CARNITINE (TRIMETHYL-D9, 98%) (1268-27-79-0)
State or local regulations
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List
CREATININE (N-METHYL-D3, 98%) (143827-20-7)
State or local regulations
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List
L-GLUTAMINE (2,3,3,4,4-D5, 97%) (14341-78-7)
State or local regulations
U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List
L-ALANINE (2,3,3,3-D4, 98%) (18806-29-6)
State or local regulations
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List
L-LEUCINE (5,5,5-D3, 99%) (87828-86-2)
State or local regulations
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List
SODIUM PROPIONATE (D5, 98%) (202529-18-8)
State or local regulations
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List
L-PHENYLALANINE (RING-D5, 98%) (56253-90-8)
State or local regulations
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List
UREA (15N2, 98%+) (2067-80-3)
State or local regulations
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List
SODIUM BUTYRATE (D7, 98%) (156-54-7 (Unlabeled))
State or local regulations
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List
2-DEOXY-D-GLUCOSE UNLABELED (154-17-6)
State or local regulations
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List

SECTION 16: Other information

Other information : This product is not radioactive. The data given for this product are those of the corresponding unlabeled compound, unless specifically indicated otherwise. Health and safety data for labeled compounds are generally not available, but are assumed to be similar or identical to the corresponding unlabeled compound.

Full text of R-, H- and EUH-phrases:

Acute Tox. 4 (Dermal)	Acute toxicity (dermal) Category 4
Eye Irrit. 2	Serious eye damage/eye irritation Category 2
Muta. 2	Germ cell mutagenicity Category 2
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H312	Harmful in contact with skin

METABOLOMICS STANDARD MIX 1

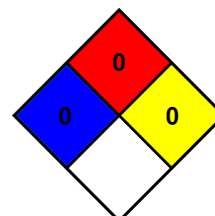
MSK-MET1-1

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H341	Suspected of causing genetic defects
R21	Harmful in contact with skin
R36/37/38	Irritating to eyes, respiratory system and skin
R68	Possible risk of irreversible effects
Xi	Irritant
Xn	Harmful

- NFPA health hazard : 0 - Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials.
- NFPA fire hazard : 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.
- NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



Hazard Rating

- Health : 0 Minimal Hazard - No significant risk to health
- Flammability : 0 Minimal Hazard
- Physical : 0 Minimal Hazard

CIL Mixture SDS

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product