



LABELED ORGANIC ACID MIX

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: 04/06/2019

Revision date: 08/08/2022

Supersedes: 24/01/2020

Version: 2.1

MSK-OA-1

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

1.1. Product identifier

Product form : Mixtures
Product name : LABELED ORGANIC ACID MIX
Product code : MSK-OA-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]

Skin Irrit. 2 H315
Eye Dam. 1 H318
Skin Sens. 1 H317
Muta. 2 H341
STOT SE 3 H335

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

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

Xi; R37/38
R43
Muta.Cat.3; R68

Full text of R-phrases: see section 16

GHS-US classification

Skin Irrit. 2 H315
Eye Dam. 1 H318
Skin Sens. 1 H317
Muta. 2 H341
STOT SE 3 H335

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

LABELED ORGANIC ACID MIX

MSK-OA-1

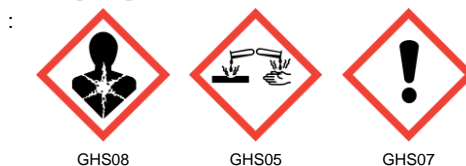
Safety Data Sheet

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

2.2. Label elements

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

Hazard pictograms (CLP)



Signal word (CLP)

: Danger

Hazardous ingredients

: ALPHA-KETOBUTYRIC ACID, SODIUM SALT (13C4, 98%); SODIUM PYRUVATE (13C3, 99%); FUMARIC ACID, DISODIUM SALT (13C4, 99%); GLYCOLIC ACID, SODIUM SALT (1,2-13C2, 99%); CREATINE (15N3, 98%); SODIUM BUTYRATE (13C4, 99%); SODIUM D-GLUCONATE (U-13C6, 99%); GLYCINE, N-BENZOYL (HIPURIC ACID) (RING-13C6, 99%); HOMOVANILLIC ACID, SODIUM SALT (13C2, 98-99%); SODIUM ISOBUTYRATE (13C4, 99%); DL-VANILMANDELIC ACID, SODIUM SALT (13C6, 99%)

Hazard statements (CLP)

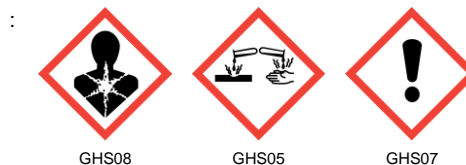
: H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H335 - May cause respiratory irritation
H341 - Suspected of causing genetic defects (if swallowed, if inhaled, in contact with skin)

Precautionary statements (CLP)

: P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 - Wash hands, forearms and face thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P272 - Contaminated work clothing should not be allowed out of the workplace.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 - IF ON SKIN: Wash with plenty of water.
P304+P340 - IF INHALED: Remove person to fresh air and keep 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.

GHS-US labeling

Hazard pictograms (GHS-US)



Signal word (GHS-US)

: Danger

Hazard statements (GHS-US)

: H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H335 - May cause respiratory irritation
H341 - Suspected of causing genetic defects (Dermal, Inhalation, oral)

Precautionary statements (GHS-US)

: P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 - Wash hands, forearms and face thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P272 - Contaminated work clothing must not be allowed out of the workplace
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 - If on skin: Wash with plenty of water
P304+P340 - If inhaled: Remove person to fresh air and keep 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
P312 - Call a poison center or doctor if you feel unwell
P321 - Specific treatment (see supplemental first aid instruction on this label)
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P363 - Wash contaminated clothing before reuse.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

LABELLED ORGANIC ACID MIX

MSK-OA-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

2.3. Other hazards

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Directive 67/548/EEC
TRISODIUM CITRATE, HEMI-HYDRATE (1,5,6-CARBOXY-13C3, 99%)	(CAS-No.) 68-04-2 (Unlabeled) (EC-No.) 200-675-3 (Unlabeled) (EC Index-No.)	4.8624	Not classified
DL-VANILMANDELIC ACID, SODIUM SALT (13C6, 99%)	(CAS-No.) 79427-93-3 (Unlabeled)	4.2116	Xi; R36/37/38 Xn; R22
SODIUM D-GLUCONATE (U-13C6, 99%)	(CAS-No.) 2687960-00-3 (EC-No.) 208-407-7 (Unlabeled) (EC Index-No.)	4.174	Xn; R20/21/22 Xi; R36/37 R43
PHTHALIC ACID, DISODIUM SALT (13C4, 99%)	(CAS-No.) 15968-01-1 (Unlabeled) (EC Index-No.)	3.9873	Not classified
GLYCINE, N-BENZOYL (HIPPURIC ACID) (RING-13C6, 99%)	(CAS-No.) 1163160-18-6 (EC-No.) 207-806-3 (Unlabeled)	3.8577	Xi; R41 Xi; R37/38 Xn; R22
HOMOVANILLIC ACID, SODIUM SALT (13C2, 98-99%)	(CAS-No.) 76261-11-5 (Unlabeled) (EC Index-No.)	3.8396	Xi; R36/37/38
DL-2-HYDROXYGLUTARIC ACID, DISODIUM SALT (13C5, 99%)	(CAS-No.) 40951-21-1 (Unlabeled) (EC-No.) 206-167-8 (Unlabeled) (EC Index-No.)	3.6701	Not classified
ADIPIC ACID, DISODIUM SALT (13C6, 99%)	(CAS-No.) 7486-38-6 (Unlabeled) (EC Index-No.)	3.6519	Not classified
ALPHA-KETOGLUTARIC ACID, DISODIUM SALT (1,2,3,4-13C4, 99%)	(CAS-No.) 305-72-6 (Unlabeled) (EC-No.) 206-167-8 (Unlabeled)	3.6141	Not classified
URIC ACID, SODIUM SALT (15N2, 98%)	(CAS-No.) 1198-77-2 (Unlabeled) (EC-No.) 214-838-1 (Unlabeled) (EC Index-No.)	3.5778	Not classified
VITAMIN C (L-ASCORBIC ACID) (U-13C6, 98%)	(CAS-No.) 50-81-7 (Unlabeled) (EC-No.) 200-066-2 (Unlabeled) (EC Index-No.)	3.3915	Not classified
MALIC ACID, DISODIUM SALT MONOHYDRATE (13C4, 99%)	(CAS-No.) 207511-06-6 (Unlabeled) (EC-No.) 211-627-6 (Unlabeled) (EC Index-No.)	3.3904	Not classified
OROTIC ACID, SODIUM SALT (15N2, 98%)	(CAS-No.) 154-85-8 (Unlabeled) (EC-No.) 205-834-0 (Unlabeled) (EC Index-No.)	3.354	Not classified
TRANS-ACONITIC ACID (2,4,4'-13C3, 99%) CHEMICAL PURITY 95%	(CAS-No.) 4023-65-8 (Unlabeled) (EC-No.) 223-688-6 (Unlabeled)	3.2985	Not classified
SUCCINIC ACID, DISODIUM SALT (13C4, 99%)	(CAS-No.) 150-90-3 (Unlabeled) (EC-No.) 205-778-7 (Unlabeled) (EC Index-No.)	3.0923	Not classified
METHYLMALONIC ACID, DISODIUM SALT (13C4, 99%)	(CAS-No.) 53007-37-7 (Unlabeled) (EC Index-No.)	3.0923	Not classified
FUMARIC ACID, DISODIUM SALT (13C4, 99%)	(CAS-No.) 17013-01-3 (Unlabeled) (EC-No.) 241-087-7 (Unlabeled) (EC Index-No.)	3.0548	Xi; R36/37/38
MALEIC ACID, DISODIUM SALT MONOHYDRATE (13C4, 99%)	(CAS-No.) 371-47-1 (Unlabeled) (EC-No.) 206-738-1 (Unlabeled) (EC Index-No.)	3.0548	Not classified
ALPHA-KETOISOCAPROIC ACID, SODIUM SALT (13C6, 99%)	(CAS-No.) 4502-00-5 (Unlabeled) (EC-No.) 224-816-3 (Unlabeled)	2.9445	Not classified
MALONIC ACID, DISODIUM SALT (13C3, 99%)	(CAS-No.) 141-95-7 (Unlabeled) (EC-No.) 205-514-0 (Unlabeled) (EC Index-No.)	2.8126	Not classified
SODIUM BENZOATE (RING-13C6, 99%)	(CAS-No.) 532-32-1 (Unlabeled) (EC-No.) 208-534-8 (Unlabeled) (EC Index-No.)	2.7951	Xi; R36
ALPHA-KETOISOVALERIC ACID, SODIUM SALT (13C5, 98%)	(CAS-No.) 1173018-24-0 (EC-No.) 223-062-2 (Unlabeled)	2.6647	Not classified
OXALIC ACID, DISODIUM SALT (1,2-13C2, 99%)	(CAS-No.) 260429-91-2 (EC-No.) 200-550-3 (Unlabeled) (EC Index-No.) 607-007-00-3 (Unlabeled)	2.5328	Xn; R21/22
CREATINE (15N3, 98%)	(CAS-No.) 57-00-1 (Unlabeled) (EC-No.) 200-306-6 (Unlabeled)	2.498	Xi; R36/37/38
SODIUM D-3-HYDROXYBUTYRATE (13C4, 99%) 97% CHEMICAL PURITY	(CAS-No.) 13613-65-5 (Unlabeled) (EC Index-No.)	2.4225	Not classified

LABELED ORGANIC ACID MIX

MSK-OA-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

Name	Product identifier	%	Classification according to Directive 67/548/EEC
ALPHA-KETOBUTYRIC ACID, SODIUM SALT (13C4, 98%)	(CAS-No.) 2013-26-5 (Unlabeled) (EC-No.) 217-937-8 (Unlabeled) (EC Index-No.)	2.3849	Xi; R36/37/38
SODIUM L-LACTATE (13C3, 98%)	(CAS-No.) 201595-71-3 (EC-No.) 212-762-3 (Unlabeled)	2.1428	Not classified
SODIUM BUTYRATE (13C4, 99%)	(CAS-No.) 312623-84-0 (EC-No.) 205-857-6 (Unlabeled)	2.1245	Xi; R36/37/38 Muta.Cat.3; R68
SODIUM ISOBUTYRATE (13C4, 99%)	(CAS-No.) 996-30-5 (Unlabeled) (EC Index-No.)	2.1245	Muta.Cat.3; R68 Xi; R36/37/38
SODIUM PYRUVATE (13C3, 99%)	(CAS-No.) 142014-11-7 (EC-No.) 204-024-4 (Unlabeled)	2.1052	Xi; R36/37/38
GLYCOLIC ACID, SODIUM SALT (1,2-13C2, 99%)	(CAS-No.) 2836-32-0 (Unlabeled)	1.863	Xi; R36/37/38
SODIUM PROPIONATE (13C3, 99%)	(CAS-No.) 152571-51-2 (EC-No.) 205-290-4 (Unlabeled)	1.8448	Xn; R21
SODIUM ACETATE (1,2-13C2, 99%)	(CAS-No.) 56374-56-2 (EC-No.) 204-823-8 (Unlabeled)	1.565	Not classified

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
TRISODIUM CITRATE, HEMI-HYDRATE (1,5,6-CARBOXY-13C3, 99%)	(CAS-No.) 68-04-2 (Unlabeled) (EC-No.) 200-675-3 (Unlabeled) (EC Index-No.)	4.8624	Not classified
DL-VANILMANDELIC ACID, SODIUM SALT (13C6, 99%)	(CAS-No.) 79427-93-3 (Unlabeled)	4.2116	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335
SODIUM D-GLUCONATE (U-13C6, 99%)	(CAS-No.) 2687960-00-3 (EC-No.) 208-407-7 (Unlabeled) (EC Index-No.)	4.174	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation:gas), H332 Eye Irrit. 2, H319 Skin Sens. 1, H317 STOT SE 3, H335
PHTHALIC ACID, DISODIUM SALT (13C4, 99%)	(CAS-No.) 15968-01-1 (Unlabeled) (EC Index-No.)	3.9873	Not classified
GLYCINE, N-BENZOYL (HIPURIC ACID) (RING-13C6, 99%)	(CAS-No.) 1163160-18-6 (EC-No.) 207-806-3 (Unlabeled)	3.8577	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335
HOMOVANILLIC ACID, SODIUM SALT (13C2, 98-99%)	(CAS-No.) 76261-11-5 (Unlabeled) (EC Index-No.)	3.8396	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335
DL-2-HYDROXYGLUTARIC ACID, DISODIUM SALT (13C5, 99%)	(CAS-No.) 40951-21-1 (Unlabeled) (EC-No.) (EC Index-No.)	3.6701	Not classified
ADIPIC ACID, DISODIUM SALT (13C6, 99%)	(CAS-No.) 7486-38-6 (Unlabeled) (EC Index-No.)	3.6519	Not classified
ALPHA-KETOGLUTARIC ACID, DISODIUM SALT (1,2,3,4-13C4, 99%)	(CAS-No.) 305-72-6 (Unlabeled) (EC-No.) 206-167-8 (Unlabeled)	3.6141	Not classified
URIC ACID, SODIUM SALT (15N2, 98%)	(CAS-No.) 1198-77-2 (Unlabeled) (EC-No.) 214-838-1 (Unlabeled) (EC Index-No.)	3.5778	Not classified
VITAMIN C (L-ASCORBIC ACID) (U-13C6, 98%)	(CAS-No.) 50-81-7 (Unlabeled) (EC-No.) 200-066-2 (Unlabeled) (EC Index-No.)	3.3915	Not classified
MALIC ACID, DISODIUM SALT MONOHYDRATE (13C4, 99%)	(CAS-No.) 207511-06-6 (Unlabeled) (EC-No.) 211-627-6 (Unlabeled) (EC Index-No.)	3.3904	Not classified
OROTIC ACID, SODIUM SALT (15N2, 98%)	(CAS-No.) 154-85-8 (Unlabeled) (EC-No.) 205-834-0 (Unlabeled) (EC Index-No.)	3.354	Not classified
TRANS-ACONITIC ACID (2,4,4'-13C3, 99%) CHEMICAL PURITY 95%	(CAS-No.) 4023-65-8 (Unlabeled) (EC-No.) 223-688-6 (Unlabeled)	3.2985	Not classified
SUCCINIC ACID, DISODIUM SALT (13C4, 99%)	(CAS-No.) 150-90-3 (Unlabeled) (EC-No.) 205-778-7 (Unlabeled) (EC Index-No.)	3.0923	Not classified
METHYLMALONIC ACID, DISODIUM SALT (13C4, 99%)	(CAS-No.) 53007-37-7 (Unlabeled) (EC Index-No.)	3.0923	Not classified
FUMARIC ACID, DISODIUM SALT (13C4, 99%)	(CAS-No.) 17013-01-3 (Unlabeled) (EC-No.) 241-087-7 (Unlabeled) (EC Index-No.)	3.0548	Skin Irrit. 2, H315 STOT SE 3, H335
MALEIC ACID, DISODIUM SALT MONOHYDRATE (13C4, 99%)	(CAS-No.) 371-47-1 (Unlabeled) (EC-No.) 206-738-1 (Unlabeled) (EC Index-No.)	3.0548	Not classified

LABELED ORGANIC ACID MIX

MSK-OA-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

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
ALPHA-KETOISOCAPROIC ACID, SODIUM SALT (13C6, 99%)	(CAS-No.) 4502-00-5 (Unlabeled) (EC-No.) 224-816-3 (Unlabeled)	2.9445	Not classified
MALONIC ACID, DISODIUM SALT (13C3, 99%)	(CAS-No.) 141-95-7 (Unlabeled) (EC-No.) 205-514-0 (Unlabeled) (EC Index-No.)	2.8126	Not classified
SODIUM BENZOATE (RING-13C6, 99%)	(CAS-No.) 532-32-1 (Unlabeled) (EC-No.) 208-534-8 (Unlabeled) (EC Index-No.)	2.7951	Eye Irrit. 2, H319
ALPHA-KETOISOVALERIC ACID, SODIUM SALT (13C5, 98%)	(CAS-No.) 1173018-24-0 (EC-No.) 223-062-2 (Unlabeled)	2.6647	Not classified
OXALIC ACID, DISODIUM SALT (1,2-13C2, 99%)	(CAS-No.) 260429-91-2 (EC-No.) 200-550-3 (Unlabeled) (EC Index-No.) 607-007-00-3 (Unlabeled)	2.5328	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312
CREATINE (15N3, 98%)	(CAS-No.) 57-00-1 (Unlabeled) (EC-No.) 200-306-6 (Unlabeled)	2.498	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335
SODIUM D-3-HYDROXYBUTYRATE (13C4, 99%) 97% CHEMICAL PURITY	(CAS-No.) 13613-65-5 (Unlabeled) (EC Index-No.)	2.4225	Not classified
ALPHA-KETOGLUTARIC ACID, SODIUM SALT (13C4, 98%)	(CAS-No.) 2013-26-5 (Unlabeled) (EC-No.) 217-937-8 (Unlabeled) (EC Index-No.)	2.3849	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335
SODIUM L-LACTATE (13C3, 98%)	(CAS-No.) 201595-71-3 (EC-No.) 212-762-3 (Unlabeled)	2.1428	Not classified
SODIUM BUTYRATE (13C4, 99%)	(CAS-No.) 312623-84-0 (EC-No.) 205-857-6 (Unlabeled)	2.1245	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Muta. 2, H341 STOT SE 3, H335
SODIUM ISOBUTYRATE (13C4, 99%)	(CAS-No.) 996-30-5 (Unlabeled) (EC Index-No.)	2.1245	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Muta. 2, H341 STOT SE 3, H335
SODIUM PYRUVATE (13C3, 99%)	(CAS-No.) 142014-11-7 (EC-No.) 204-024-4 (Unlabeled)	2.1052	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335
GLYCOLIC ACID, SODIUM SALT (1,2-13C2, 99%)	(CAS-No.) 2836-32-0 (Unlabeled)	1.863	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335
SODIUM PROPIONATE (13C3, 99%)	(CAS-No.) 152571-51-2 (EC-No.) 205-290-4 (Unlabeled)	1.8448	Acute Tox. 4 (Dermal), H312
SODIUM ACETATE (1,2-13C2, 99%)	(CAS-No.) 56374-56-2 (EC-No.) 204-823-8 (Unlabeled)	1.565	Not classified

Name	Product identifier	%	GHS-US classification
TRISODIUM CITRATE, HEMI-HYDRATE (1,5,6-CARBOXY-13C3, 99%)	(CAS-No.) 68-04-2 (Unlabeled)	4.8624	Not classified
DL-VANILMANDELIC ACID, SODIUM SALT (13C6, 99%)	(CAS-No.) 79427-93-3 (Unlabeled)	4.2116	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335
SODIUM D-GLUCONATE (U-13C6, 99%)	(CAS-No.) 2687960-00-3	4.174	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Eye Irrit. 2, H319 Skin Sens. 1, H317 STOT SE 3, H335
PHTHALIC ACID, DISODIUM SALT (13C4, 99%)	(CAS-No.) 15968-01-1 (Unlabeled)	3.9873	Not classified
GLYCINE, N-BENZOYL (HIPURIC ACID) (RING-13C6, 99%)	(CAS-No.) 1163160-18-6	3.8577	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335
HOMOVANILLIC ACID, SODIUM SALT (13C2, 98-99%)	(CAS-No.) 76261-11-5 (Unlabeled)	3.8396	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335
DL-2-HYDROXYGLUTARIC ACID, DISODIUM SALT (13C5, 99%)	(CAS-No.) 40951-21-1 (Unlabeled)	3.6701	Not classified
ADIPIC ACID, DISODIUM SALT (13C6, 99%)	(CAS-No.) 7486-38-6 (Unlabeled)	3.6519	Not classified
ALPHA-KETOGLUTARIC ACID, DISODIUM SALT (1,2,3,4-13C4, 99%)	(CAS-No.) 305-72-6 (Unlabeled)	3.6141	Not classified
URIC ACID, SODIUM SALT (15N2, 98%)	(CAS-No.) 1198-77-2 (Unlabeled)	3.5778	Not classified
VITAMIN C (L-ASCORBIC ACID) (U-13C6, 98%)	(CAS-No.) 50-81-7 (Unlabeled)	3.3915	Not classified
MALIC ACID, DISODIUM SALT MONOHYDRATE (13C4, 99%)	(CAS-No.) 207511-06-6 (Unlabeled)	3.3904	Not classified
OROTIC ACID, SODIUM SALT (15N2, 98%)	(CAS-No.) 154-85-8 (Unlabeled)	3.354	Not classified

LABELLED ORGANIC ACID MIX

MSK-OA-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

Name	Product identifier	%	GHS-US classification
TRANS-ACONITIC ACID (2,4,4'-13C3, 99%) CHEMICAL PURITY 95%	(CAS-No.) 4023-65-8 (Unlabeled)	3.2985	Not classified
SUCCINIC ACID, DISODIUM SALT (13C4, 99%)	(CAS-No.) 150-90-3 (Unlabeled)	3.0923	Not classified
METHYLMALONIC ACID, DISODIUM SALT (13C4, 99%)	(CAS-No.) 53007-37-7 (Unlabeled)	3.0923	Not classified
FUMARIC ACID, DISODIUM SALT (13C4, 99%)	(CAS-No.) 17013-01-3 (Unlabeled)	3.0548	Skin Irrit. 2, H315 Eye Irrit. 2B, H320 STOT SE 3, H335
MALEIC ACID, DISODIUM SALT MONOHYDRATE (13C4, 99%)	(CAS-No.) 371-47-1 (Unlabeled)	3.0548	Not classified
ALPHA-KETOISOCAPROIC ACID, SODIUM SALT (13C6, 99%)	(CAS-No.) 4502-00-5 (Unlabeled)	2.9445	Not classified
MALONIC ACID, DISODIUM SALT (13C3, 99%)	(CAS-No.) 141-95-7 (Unlabeled)	2.8126	Not classified
SODIUM BENZOATE (RING-13C6, 99%)	(CAS-No.) 532-32-1 (Unlabeled)	2.7951	Eye Irrit. 2A, H319
ALPHA-KETOISOVALERIC ACID, SODIUM SALT (13C5, 98%)	(CAS-No.) 1173018-24-0	2.6647	Not classified
OXALIC ACID, DISODIUM SALT (1,2-13C2, 99%)	(CAS-No.) 260429-91-2	2.5328	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312
CREATINE (15N3, 98%)	(CAS-No.) 57-00-1 (Unlabeled)	2.498	Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335
SODIUM D-3-HYDROXYBUTYRATE (13C4, 99%) 97% CHEMICAL PURITY	(CAS-No.) 13613-65-5 (Unlabeled)	2.4225	Not classified
ALPHA-KETOBUTYRIC ACID, SODIUM SALT (13C4, 98%)	(CAS-No.) 2013-26-5 (Unlabeled)	2.3849	Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335
SODIUM L-LACTATE (13C3, 98%)	(CAS-No.) 201595-71-3	2.1428	Not classified
SODIUM BUTYRATE (13C4, 99%)	(CAS-No.) 312623-84-0	2.1245	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Muta. 2, H341 STOT SE 3, H335
SODIUM ISOBUTYRATE (13C4, 99%)	(CAS-No.) 996-30-5 (Unlabeled)	2.1245	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Muta. 2, H341 STOT SE 3, H335
SODIUM PYRUVATE (13C3, 99%)	(CAS-No.) 142014-11-7	2.1052	Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335
GLYCOLIC ACID, SODIUM SALT (1,2-13C2, 99%)	(CAS-No.) 2836-32-0 (Unlabeled)	1.863	Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335
SODIUM PROPIONATE (13C3, 99%)	(CAS-No.) 152571-51-2	1.8448	Acute Tox. 4 (Dermal), H312
SODIUM ACETATE (1,2-13C2, 99%)	(CAS-No.) 56374-56-2	1.565	Not classified

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	: May cause genetic defects (in contact with skin, if inhaled, if swallowed).
Symptoms/effects after inhalation	: May be harmful if inhaled. May cause respiratory irritation.
Symptoms/effects after skin contact	: Causes skin irritation. May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Causes serious eye damage.
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).

LABELED ORGANIC ACID MIX

MSK-OA-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

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.
- 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

No additional information available

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

Physical state : Solid

LABELED ORGANIC ACID MIX

MSK-OA-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

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

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable if stored under recommended conditions.

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

MALONIC ACID, DISODIUM SALT (13C3, 99%) (141-95-7 (Unlabeled))	
LD50, intraperitoneal, rat	1,100 mg/kg
OXALIC ACID, DISODIUM SALT (1,2-13C2, 99%) (260429-91-2)	
LD50 oral rat	11160 mg/kg
ATE CLP (oral)	500.000 mg/kg body weight
ATE CLP (dermal)	1100.000 mg/kg body weight
FUMARIC ACID, DISODIUM SALT (13C4, 99%) (17013-01-3 (Unlabeled))	
LD50 oral rat	8000 mg/kg
MALEIC ACID, DISODIUM SALT MONOHYDRATE (13C4, 99%) (371-47-1 (Unlabeled))	
LD50 oral rat	3380 mg/kg

LABELLED ORGANIC ACID MIX

MSK-OA-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

ADIPIC ACID, DISODIUM SALT (13C6, 99%) (7486-38-6 (Unlabeled))	
LD50, intraperitoneal, mouse	4,000 mg/kg
SODIUM PROPIONATE (13C3, 99%) (152571-51-2)	
LD50 oral	6332 mg/kg mouse
LD50 dermal rabbit	1640 mg/kg
ATE CLP (dermal)	1640.000 mg/kg body weight
SODIUM ACETATE (1,2-13C2, 99%) (56374-56-2)	
LD50 oral rat	3530 mg/kg
LD50 dermal rabbit	> 10000 mg/kg
LC50 inhalation rat (mg/l)	> 30000 mg/m ³ 1 h
ATE CLP (oral)	3530.000 mg/kg body weight
MALIC ACID, DISODIUM SALT MONOHYDRATE (13C4, 99%) (207511-06-6 (Unlabeled))	
Additional information	LD50 Subcutaneous - rat - 3,500 mg/kg Remarks: Peripheral Nerve and Sensation:Flaccid paralysis without anesthesia (usually neuromuscular blockage). Behavioral:Excitement. Behavioral:Muscle weakness.
DL-2-HYDROXYGLUTARIC ACID, DISODIUM SALT (13C5, 99%) (40951-21-1 (Unlabeled))	
LD50, intraperitoneal, mouse	4,500 mg/kg
DL-VANILMANDELIC ACID, SODIUM SALT (13C6, 99%) (79427-93-3 (Unlabeled))	
ATE CLP (oral)	500.000 mg/kg body weight
GLYCINE, N-BENZOYL (HIPURIC ACID) (RING-13C6, 99%) (1163160-18-6)	
ATE CLP (oral)	500.000 mg/kg body weight
SODIUM BENZOATE (RING-13C6, 99%) (532-32-1 (Unlabeled))	
LD50 oral rat	2100 mg/kg
ATE CLP (oral)	2100.000 mg/kg body weight
VITAMIN C (L-ASCORBIC ACID) (U-13C6, 98%) (50-81-7 (Unlabeled))	
LD50 oral rat	11900 mg/kg Remarks: Sense Organs and Special Senses: (Nose, Eye, Ear, and Taste): Lacrimation. Behavioral: Somnolence (general depressed activity). Diarrhea
SODIUM D-GLUCONATE (U-13C6, 99%) (2687960-00-3)	
ATE CLP (oral)	500.000 mg/kg body weight
ATE CLP (dermal)	1100.000 mg/kg body weight
ATE CLP (gases)	4500.000 ppmV/4h

Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitization	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Suspected of causing genetic defects (if swallowed, if inhaled, in contact with skin).
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity – single exposure	: May cause respiratory irritation.
Specific target organ toxicity – repeated exposure	: Not classified
Aspiration hazard	: Not classified
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	: Causes skin irritation. May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Causes serious eye damage.
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.
-------------------	--

OXALIC ACID, DISODIUM SALT (1,2-13C2, 99%) (260429-91-2)	
LC50 fish 1	630 mg/l - 96 h, Danio rerio (zebra fish) -
EC50 Daphnia 1	397.98 mg/l - 24 h, Daphnia magna (Water flea) -

LABELLED ORGANIC ACID MIX

MSK-OA-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

SODIUM PROPIONATE (13C3, 99%) (152571-51-2)	
LC50 fish 1	4740 mg/l Pimephales promelas (fathead minnow) - 96 h
SODIUM ACETATE (1,2-13C2, 99%) (56374-56-2)	
LC50 fish 1	13330 mg/l Pimephales promelas (fathead minnow) - 120 h
EC50 Daphnia 1	> 1000 mg/l Daphnia magna (Water flea) - 48 h
LC50 fish 2	5000 mg/l Lepomis macrochirus (Bluegill) - 24 h
SODIUM BUTYRATE (13C4, 99%) (312623-84-0)	
LC50 fish 1	5000 mg/l Lepomis macrochirus - 24 h
EC50 Daphnia 1	1950 mg/l Daphnia magna (Water flea) - 24 h
SODIUM BENZOATE (RING-13C6, 99%) (532-32-1 (Unlabeled))	
LC50 fish 1	484 mg/l Pimephales promelas (fathead minnow) - 96 h

12.2. Persistence and degradability

SODIUM ACETATE (1,2-13C2, 99%) (56374-56-2)	
Persistence and degradability	Biodegradability Result: 99% - Readily biodegradable.
SODIUM BENZOATE (RING-13C6, 99%) (532-32-1 (Unlabeled))	
Biodegradation	90 % - Readily biodegradable. (OECD Test Guideline 301)

12.3. Bioaccumulative potential

SODIUM ACETATE (1,2-13C2, 99%) (56374-56-2)	
Log Pow	- 4.22
GLYCINE, N-BENZOYL (HIPURIC ACID) (RING-13C6, 99%) (1163160-18-6)	
Log Pow	0.711
SODIUM BENZOATE (RING-13C6, 99%) (532-32-1 (Unlabeled))	
Log Pow	-2.13

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

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

LABELED ORGANIC ACID MIX

MSK-OA-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

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

LABELED ORGANIC ACID MIX

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.
---------------------------------------	--

ALPHA-KETOISOVALERIC ACID, SODIUM SALT (13C5, 98%) (1173018-24-0)

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
---------------------------------------	---

ALPHA-KETOBUTYRIC ACID, SODIUM SALT (13C4, 98%) (2013-26-5 (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
-------------------------------------	---------------------------------

SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313
---------------------------------------	---

SODIUM PYRUVATE (13C3, 99%) (142014-11-7)

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
---------------------------------------	---

ALPHA-KETOGLUTARIC ACID, DISODIUM SALT (1,2,3,4-13C4, 99%) (305-72-6 (Unlabeled))

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
---------------------------------------	---

ALPHA-KETOISOCAPROIC ACID, SODIUM SALT (13C6, 99%) (4502-00-5 (Unlabeled))

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
---------------------------------------	---

MALONIC ACID, DISODIUM SALT (13C3, 99%) (141-95-7 (Unlabeled))

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.
---------------------------------------	--

OXALIC ACID, DISODIUM SALT (1,2-13C2, 99%) (260429-91-2)

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
---------------------------------------	---

SUCCINIC ACID, DISODIUM SALT (13C4, 99%) (150-90-3 (Unlabeled))

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.
---------------------------------------	--

FUMARIC ACID, DISODIUM SALT (13C4, 99%) (17013-01-3 (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
-------------------------------------	---------------------------------

SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.
---------------------------------------	--

MALEIC ACID, DISODIUM SALT MONOHYDRATE (13C4, 99%) (371-47-1 (Unlabeled))

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.
---------------------------------------	--

ADIPIC ACID, DISODIUM SALT (13C6, 99%) (7486-38-6 (Unlabeled))

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.
---------------------------------------	--

LABELED ORGANIC ACID MIX

MSK-OA-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

METHYLMALONIC ACID, DISODIUM SALT (13C4, 99%) (53007-37-7 (Unlabeled))	
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 ISOBUTYRATE (13C4, 99%) (996-30-5 (Unlabeled))	
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 (13C3, 99%) (152571-51-2)	
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.
SODIUM ACETATE (1,2-13C2, 99%) (56374-56-2)	
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.
SODIUM BUTYRATE (13C4, 99%) (312623-84-0)	
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 Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.
MALIC ACID, DISODIUM SALT MONOHYDRATE (13C4, 99%) (207511-06-6 (Unlabeled))	
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.
DL-2-HYDROXYGLUTARIC ACID, DISODIUM SALT (13C5, 99%) (40951-21-1 (Unlabeled))	
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.
DL-VANILMANDELIC ACID, SODIUM SALT (13C6, 99%) (79427-93-3 (Unlabeled))	
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.
GLYCINE, N-BENZOYL (HIPURIC ACID) (RING-13C6, 99%) (1163160-18-6)	
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.
HOMOVANILLIC ACID, SODIUM SALT (13C2, 98-99%) (76261-11-5 (Unlabeled))	
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 BENZOATE (RING-13C6, 99%) (532-32-1 (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
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.
PHTHALIC ACID, DISODIUM SALT (13C4, 99%) (15968-01-1 (Unlabeled))	
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.
VITAMIN C (L-ASCORBIC ACID) (U-13C6, 98%) (50-81-7 (Unlabeled))	
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.

LABELED ORGANIC ACID MIX

MSK-OA-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

SODIUM D-GLUCONATE (U-13C6, 99%) (2687960-00-3)

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.

OROTIC ACID, SODIUM SALT (15N2, 98%) (154-85-8 (Unlabeled))

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.

TRISODIUM CITRATE, HEMI-HYDRATE (1,5,6-CARBOXY-13C3, 99%) (68-04-2 (Unlabeled))

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.

CREATINE (15N3, 98%) (57-00-1 (Unlabeled))

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;

TRANS-ACONITIC ACID (2,4,4'-13C3, 99%) CHEMICAL PURITY 95% (4023-65-8 (Unlabeled))

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

URIC ACID, SODIUM SALT (15N2, 98%) (1198-77-2 (Unlabeled))

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 D-3-HYDROXYBUTYRATE (13C4, 99%) 97% CHEMICAL PURITY (13613-65-5 (Unlabeled))

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 L-LACTATE (13C3, 98%) (201595-71-3)

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.

15.2. International regulations

CANADA

LABELED ORGANIC ACID MIX

Listed on the Canadian DSL (Domestic Substances List)

15.2.1. National regulations

No additional information available

15.3. US State regulations

LABELED ORGANIC ACID MIX()

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	RTK - U.S. - Pennsylvania - RTK (Right to Know) List RTK - U.S. - New Jersey - Right to Know Hazardous Substance List

ALPHA-KETOISOVALERIC ACID, SODIUM SALT (13C5, 98%) (1173018-24-0)

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	

LABELED ORGANIC ACID MIX MSK-OA-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

ALPHA-KETOBTYRIC ACID, SODIUM SALT (13C4, 98%) (2013-26-5 (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	
SODIUM PYRUVATE (13C3, 99%) (142014-11-7)				
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	
ALPHA-KETOGLUTARIC ACID, DISODIUM SALT (1,2,3,4-13C4, 99%) (305-72-6 (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	
ALPHA-KETOISOCAPROIC ACID, SODIUM SALT (13C6, 99%) (4502-00-5 (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	
MALONIC ACID, DISODIUM SALT (13C3, 99%) (141-95-7 (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	
OXALIC ACID, DISODIUM SALT (1,2-13C2, 99%) (260429-91-2)				
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	
SUCCINIC ACID, DISODIUM SALT (13C4, 99%) (150-90-3 (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	
FUMARIC ACID, DISODIUM SALT (13C4, 99%) (17013-01-3 (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	
MALEIC ACID, DISODIUM SALT MONOHYDRATE (13C4, 99%) (371-47-1 (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	
ADIPIIC ACID, DISODIUM SALT (13C6, 99%) (7486-38-6 (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	

LABELED ORGANIC ACID MIX MSK-OA-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

ADIPIC ACID, DISODIUM SALT (13C6, 99%) (7486-38-6 (Unlabeled))				
No	No	No	No	
METHYLMALONIC ACID, DISODIUM SALT (13C4, 99%) (53007-37-7 (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	
SODIUM ISOBUTYRATE (13C4, 99%) (996-30-5 (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	
SODIUM PROPIONATE (13C3, 99%) (152571-51-2)				
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 ACETATE (1,2-13C2, 99%) (56374-56-2)				
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 BUTYRATE (13C4, 99%) (312623-84-0)				
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	
MALIC ACID, DISODIUM SALT MONOHYDRATE (13C4, 99%) (207511-06-6 (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	
DL-2-HYDROXYGLUTARIC ACID, DISODIUM SALT (13C5, 99%) (40951-21-1 (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	
GLYCOLIC ACID, SODIUM SALT (1,2-13C2, 99%) (2836-32-0 (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	
DL-VANILMANDELIC ACID, SODIUM SALT (13C6, 99%) (79427-93-3 (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	

LABELED ORGANIC ACID MIX

MSK-OA-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

GLYCINE, N-BENZOYL (HIPPURIC ACID) (RING-13C6, 99%) (1163160-18-6)				
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	
HOMOVANILLIC ACID, SODIUM SALT (13C2, 98-99%) (76261-11-5 (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	
SODIUM BENZOATE (RING-13C6, 99%) (532-32-1 (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	
PHTHALIC ACID, DISODIUM SALT (13C4, 99%) (15968-01-1 (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	
VITAMIN C (L-ASCORBIC ACID) (U-13C6, 98%) (50-81-7 (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	
SODIUM D-GLUCONATE (U-13C6, 99%) (2687960-00-3)				
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	
OTROTIC ACID, SODIUM SALT (15N2, 98%) (154-85-8 (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	
TRISODIUM CITRATE, HEMI-HYDRATE (1,5,6-CARBOXY-13C3, 99%) (68-04-2 (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	
CREATINE (15N3, 98%) (57-00-1 (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	
TRANS-ACONITIC ACID (2,4,4'-13C3, 99%) CHEMICAL PURITY 95% (4023-65-8 (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	

LABELED ORGANIC ACID MIX

MSK-OA-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

TRANS-ACONITIC ACID (2,4,4'-13C3, 99%) CHEMICAL PURITY 95% (4023-65-8 (Unlabeled))				
No	No	No	No	
URIC ACID, SODIUM SALT (15N2, 98%) (1198-77-2 (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	
SODIUM D-3-HYDROXYBUTYRATE (13C4, 99%) 97% CHEMICAL PURITY (13613-65-5 (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	
SODIUM L-LACTATE (13C3, 98%) (201595-71-3)				
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	
ALPHA-KETOISOVALERIC ACID, SODIUM SALT (13C5, 98%) (1173018-24-0)				
State or local regulations				
RTK - U.S. - Pennsylvania - RTK (Right to Know) List RTK - U.S. - New Jersey - Right to Know Hazardous Substance List				
ALPHA-KETOBUTYRIC ACID, SODIUM SALT (13C4, 98%) (2013-26-5 (Unlabeled))				
State or local regulations				
RTK - U.S. - Pennsylvania - RTK (Right to Know) List RTK - U.S. - New Jersey - Right to Know Hazardous Substance List				
SODIUM PYRUVATE (13C3, 99%) (142014-11-7)				
State or local regulations				
RTK - U.S. - Pennsylvania - RTK (Right to Know) List RTK - U.S. - New Jersey - Right to Know Hazardous Substance List				
ALPHA-KETOGLUTARIC ACID, DISODIUM SALT (1,2,3,4-13C4, 99%) (305-72-6 (Unlabeled))				
State or local regulations				
RTK - U.S. - New Jersey - Right to Know Hazardous Substance List RTK - U.S. - Pennsylvania - RTK (Right to Know) List				
ALPHA-KETOISOCAPROIC ACID, SODIUM SALT (13C6, 99%) (4502-00-5 (Unlabeled))				
State or local regulations				
RTK - U.S. - Pennsylvania - RTK (Right to Know) List RTK - U.S. - New Jersey - Right to Know Hazardous Substance List				
MALONIC ACID, DISODIUM SALT (13C3, 99%) (141-95-7 (Unlabeled))				
State or local regulations				
RTK - U.S. - Pennsylvania - RTK (Right to Know) List RTK - U.S. - New Jersey - Right to Know Hazardous Substance List				
OXALIC ACID, DISODIUM SALT (1,2-13C2, 99%) (260429-91-2)				
State or local regulations				
RTK - U.S. - Pennsylvania - RTK (Right to Know) List RTK - U.S. - New Jersey - Right to Know Hazardous Substance List				
SUCCINIC ACID, DISODIUM SALT (13C4, 99%) (150-90-3 (Unlabeled))				
State or local regulations				
RTK - U.S. - Pennsylvania - RTK (Right to Know) List RTK - U.S. - New Jersey - Right to Know Hazardous Substance List				
FUMARIC ACID, DISODIUM SALT (13C4, 99%) (17013-01-3 (Unlabeled))				
State or local regulations				
RTK - U.S. - Pennsylvania - RTK (Right to Know) List				

LABELLED ORGANIC ACID MIX

MSK-OA-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

FUMARIC ACID, DISODIUM SALT (13C4, 99%) (17013-01-3 (Unlabeled))
RTK - U.S. - New Jersey - Right to Know Hazardous Substance List
MALEIC ACID, DISODIUM SALT MONOHYDRATE (13C4, 99%) (371-47-1 (Unlabeled))
State or local regulations
RTK - U.S. - Pennsylvania - RTK (Right to Know) List RTK - U.S. - New Jersey - Right to Know Hazardous Substance List
ADIPIIC ACID, DISODIUM SALT (13C6, 99%) (7486-38-6 (Unlabeled))
State or local regulations
RTK - U.S. - Pennsylvania - RTK (Right to Know) List RTK - U.S. - New Jersey - Right to Know Hazardous Substance List
METHYLMALONIC ACID, DISODIUM SALT (13C4, 99%) (53007-37-7 (Unlabeled))
State or local regulations
RTK - U.S. - Pennsylvania - RTK (Right to Know) List RTK - U.S. - New Jersey - Right to Know Hazardous Substance List
SODIUM ISOBUTYRATE (13C4, 99%) (996-30-5 (Unlabeled))
State or local regulations
RTK - U.S. - Pennsylvania - RTK (Right to Know) List RTK - U.S. - New Jersey - Right to Know Hazardous Substance List
SODIUM PROPIONATE (13C3, 99%) (152571-51-2)
State or local regulations
RTK - U.S. - Pennsylvania - RTK (Right to Know) List RTK - U.S. - New Jersey - Right to Know Hazardous Substance List
SODIUM ACETATE (1,2-13C2, 99%) (56374-56-2)
State or local regulations
RTK - U.S. - Pennsylvania - RTK (Right to Know) List RTK - U.S. - New Jersey - Right to Know Hazardous Substance List
SODIUM BUTYRATE (13C4, 99%) (312623-84-0)
State or local regulations
RTK - U.S. - Pennsylvania - RTK (Right to Know) List RTK - U.S. - New Jersey - Right to Know Hazardous Substance List
MALIC ACID, DISODIUM SALT MONOHYDRATE (13C4, 99%) (207511-06-6 (Unlabeled))
State or local regulations
RTK - U.S. - Pennsylvania - RTK (Right to Know) List RTK - U.S. - New Jersey - Right to Know Hazardous Substance List
DL-2-HYDROXYGLUTARIC ACID, DISODIUM SALT (13C5, 99%) (40951-21-1 (Unlabeled))
State or local regulations
RTK - U.S. - Pennsylvania - RTK (Right to Know) List RTK - U.S. - New Jersey - Right to Know Hazardous Substance List
GLYCOLIC ACID, SODIUM SALT (1,2-13C2, 99%) (2836-32-0 (Unlabeled))
State or local regulations
RTK - U.S. - Pennsylvania - RTK (Right to Know) List RTK - U.S. - New Jersey - Right to Know Hazardous Substance List
DL-VANILMANDELIC ACID, SODIUM SALT (13C6, 99%) (79427-93-3 (Unlabeled))
State or local regulations
RTK - U.S. - New Jersey - Right to Know Hazardous Substance List RTK - U.S. - Pennsylvania - RTK (Right to Know) List
GLYCINE, N-BENZOYL (HIPURIC ACID) (RING-13C6, 99%) (1163160-18-6)
State or local regulations
RTK - U.S. - Pennsylvania - RTK (Right to Know) List RTK - U.S. - New Jersey - Right to Know Hazardous Substance List

LABELED ORGANIC ACID MIX

MSK-OA-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

HOMOVANILLIC ACID, SODIUM SALT (13C2, 98-99%) (76261-11-5 (Unlabeled))
State or local regulations
RTK - U.S. - Pennsylvania - RTK (Right to Know) List RTK - U.S. - New Jersey - Right to Know Hazardous Substance List
SODIUM BENZOATE (RING-13C6, 99%) (532-32-1 (Unlabeled))
State or local regulations
RTK - U.S. - Pennsylvania - RTK (Right to Know) List RTK - U.S. - New Jersey - Right to Know Hazardous Substance List
PHTHALIC ACID, DISODIUM SALT (13C4, 99%) (15968-01-1 (Unlabeled))
State or local regulations
RTK - U.S. - Pennsylvania - RTK (Right to Know) List RTK - U.S. - New Jersey - Right to Know Hazardous Substance List
VITAMIN C (L-ASCORBIC ACID) (U-13C6, 98%) (50-81-7 (Unlabeled))
State or local regulations
RTK - U.S. - Pennsylvania - RTK (Right to Know) List RTK - U.S. - New Jersey - Right to Know Hazardous Substance List
SODIUM D-GLUCONATE (U-13C6, 99%) (2687960-00-3)
State or local regulations
RTK - U.S. - Pennsylvania - RTK (Right to Know) List RTK - U.S. - New Jersey - Right to Know Hazardous Substance List
OROTIC ACID, SODIUM SALT (15N2, 98%) (154-85-8 (Unlabeled))
State or local regulations
RTK - U.S. - Pennsylvania - RTK (Right to Know) List RTK - U.S. - New Jersey - Right to Know Hazardous Substance List
TRISODIUM CITRATE, HEMI-HYDRATE (1,5,6-CARBOXY-13C3, 99%) (68-04-2 (Unlabeled))
State or local regulations
RTK - U.S. - Pennsylvania - RTK (Right to Know) List RTK - U.S. - New Jersey - Right to Know Hazardous Substance List
CREATINE (15N3, 98%) (57-00-1 (Unlabeled))
State or local regulations
RTK - U.S. - Pennsylvania - RTK (Right to Know) List RTK - U.S. - New Jersey - Right to Know Hazardous Substance List
TRANS-ACONITIC ACID (2,4,4'-13C3, 99%) CHEMICAL PURITY 95% (4023-65-8 (Unlabeled))
State or local regulations
RTK - U.S. - New Jersey - Right to Know Hazardous Substance List RTK - U.S. - Pennsylvania - RTK (Right to Know) List
URIC ACID, SODIUM SALT (15N2, 98%) (1198-77-2 (Unlabeled))
State or local regulations
RTK - U.S. - Pennsylvania - RTK (Right to Know) List RTK - U.S. - New Jersey - Right to Know Hazardous Substance List
SODIUM D-3-HYDROXYBUTYRATE (13C4, 99%) 97% CHEMICAL PURITY (13613-65-5 (Unlabeled))
State or local regulations
RTK - U.S. - Pennsylvania - RTK (Right to Know) List RTK - U.S. - New Jersey - Right to Know Hazardous Substance List
SODIUM L-LACTATE (13C3, 98%) (201595-71-3)
State or local regulations
RTK - U.S. - Pennsylvania - RTK (Right to Know) List RTK - 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.

LABELED ORGANIC ACID MIX

MSK-OA-1

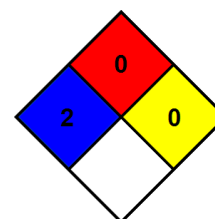
Safety Data Sheet

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

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

Acute Tox. 4 (Dermal)	Acute toxicity (dermal) Category 4
Acute Tox. 4 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Eye Dam. 1	Serious eye damage/eye irritation Category 1
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
Skin Sens. 1	Skin sensitization, Category 1
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H302	Harmful if swallowed
H312	Harmful in contact with skin
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H332	Harmful if inhaled
H335	May cause respiratory irritation
H341	Suspected of causing genetic defects
R20/21/22	Harmful by inhalation, in contact with skin and if swallowed
R21	Harmful in contact with skin
R21/22	Harmful in contact with skin and if swallowed
R22	Harmful if swallowed
R36	Irritating to eyes
R36/37	Irritating to eyes and respiratory system
R36/37/38	Irritating to eyes, respiratory system and skin
R37/38	Irritating to respiratory system and skin
R41	Risk of serious damage to eyes
R43	May cause sensitization by skin contact
R68	Possible risk of irreversible effects
Xi	Irritant
Xn	Harmful

- NFPA health hazard : 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.
- 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 : 2 Moderate Hazard - Temporary or minor injury may occur
- Flammability : 0 Minimal Hazard
- Physical : 0 Minimal Hazard

CIL Multi-Solvent 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