

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 6.16

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GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA

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

### 1.1 Product identifiers

Product name : TCA Cycle Metabolite Library

Product Number : ML0010

Brand : Sigma

REACH No. : This product is a mixture. REACH Registration Number see section 3.

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

Identified uses : Laboratory chemicals, Manufacture of substances

Uses advised against : For R&D use only. Not for pharmaceutical, household or other uses.

### 1.3

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### 1.4 Emergency telephone

Emergency Phone # : 000 800 1007 141 (CHEMTREC)

This is a summary SDS for a kit. For the full SDS for each of the components listed in section 16 please visit our website.

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Skin irritation, (Category 2) H315: Causes skin irritation.

Eye irritation, (Category 2) H319: Causes serious eye irritation.

Skin sensitization, (Category 1) H317: May cause an allergic skin reaction.

Specific target organ toxicity -  
single exposure, (Category 3),  
Respiratory system

H335: May cause respiratory irritation.

## 2.2 Label elements

### Labelling according Regulation (EC) No 1272/2008

Pictogram

Signal Word

Warning

Hazard Statements

H315

Causes skin irritation.

H317

May cause an allergic skin reaction.

H319

Causes serious eye irritation.

H335

May cause respiratory irritation.

Precautionary Statements

P261

Avoid breathing mist or vapors.

P264

Wash skin thoroughly after handling.

P271

Use only outdoors or in a well-ventilated area.

P280

Wear protective gloves/ eye protection/ face protection.

P302 + P352

IF ON SKIN: Wash with plenty of water.

P305 + P351 + P338

IF IN EYES: Rinse cautiously with water for several minutes.  
Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard  
Statements

none

### Reduced Labeling (<= 125 ml)

Pictogram

Signal Word

Warning

Hazard Statements

H317

May cause an allergic skin reaction.

Precautionary Statements

P261

Avoid breathing mist or vapors.

P302 + P352

IF ON SKIN: Wash with plenty of water.

Supplemental Hazard  
Statements

none

## 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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### **SECTION 3: Composition/information on ingredients**

Refer to component SDS

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### **SECTION 4: First aid measures**

Refer to component SDS

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### **SECTION 5: Firefighting measures**

Refer to component SDS

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### **SECTION 6: Accidental release measures**

Refer to component SDS

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### **SECTION 7: Handling and storage**

#### **7.1 Precautions for safe handling**

For precautions see section 2.2.

#### **7.2 Conditions for safe storage, including any incompatibilities**

##### **Storage conditions**

Tightly closed.

**Storage stability** Recommended storage temperature

-20 °C

##### **Storage class**

Storage class (TRGS 510): 10: Combustible liquids

#### **7.3 Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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### **SECTION 8: Exposure controls/personal protection**

Refer to component SDS

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**SECTION 9: Physical and chemical properties**

Refer to component SDS

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**SECTION 10: Stability and reactivity**

Refer to component SDS

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**SECTION 11: Toxicological information**

Refer to component SDS

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**SECTION 12: Ecological information**

Refer to component SDS

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**SECTION 13: Disposal considerations**

Refer to component SDS

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**SECTION 14: Transport information****14.1 UN number**

ADR/RID: -

IMDG: -

IATA: -

**14.2 UN proper shipping name**

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IATA: Not dangerous goods

**14.3 Transport hazard class(es)**

ADR/RID: -

IMDG: -

IATA: -

**14.4 Packaging group**

ADR/RID: -

IMDG: -

IATA: -

**14.5 Environmental hazards**

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

**14.6 Special precautions for user**

No data available

**Further information**

Not classified as dangerous in the meaning of transport regulations.

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## SECTION 15: Regulatory information

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

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Refer to component SDS

### 15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

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## SECTION 16: Other information

### Kit Components:

Acetyl coenzyme A trisodium salt	Sigma	A2056	
Citric acid monohydrate	Sigma-Aldrich	C7129	Eye Irrit. 2; STOT SE 3; H319, H335
Sodium fumarate dibasic	Sigma	F1506	
L-(–)-Malic acid	Sigma	M1000	Skin Irrit. 2; Eye Irrit. 2; H315, H319
Sodium pyruvate	Sigma-Aldrich	P2256	Eye Irrit. 2; Skin Sens. 1B; H317, H319
Succinyl coenzyme A sodium salt	Sigma	S1129	Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; H315, H319, H335
Sodium succinate dibasic hexahydrate	Sigma-Aldrich	S2378	
α-Ketoglutaric acid disodium salt hydrate	Sigma-Aldrich	K3752	
Oxaloacetic acid	Sigma	O4126	Eye Irrit. 2; H319

## Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

### Classification of the mixture

Skin Irrit.2	H315
Eye Irrit.2	H319
Skin Sens.1	H317
STOT SE3	H335

### Classification procedure:

Calculation method
Calculation method
Calculation method
Calculation method

### Further information

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## Kit Components:

<b>Acetyl coenzyme A trisodium salt</b>					
Product identifier	Pictogram	Signal Word	Hazard Statements	Precautionary Statements	Supplemental information
Sigma - A2056					No hazard pictogram, no signal word, no hazard statement(s), no precautionary statement(s) required

<b>Citric acid monohydrate</b>					
Product identifier	Pictogram	Signal Word	Hazard Statements	Precautionary Statements	Supplemental information
Sigma-Aldrich - C7129		Warning	Causes serious eye irritation. May cause respiratory irritation.	Avoid breathing dust. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell. Wash skin thoroughly after handling. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Use only outdoors or in a well-ventilated area. Wear eye	



				protection/ face protection.	
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**Sodium fumarate dibasic**

Product identifier	Pictogram	Signal Word	Hazard Statements	Precautionary Statements	Supplemental information
Sigma - F1506					No hazard pictogram, no signal word, no hazard statement(s), no precautionary statement(s) required

**L-(–)-Malic acid**

Product identifier	Pictogram	Signal Word	Hazard Statements	Precautionary Statements	Supplemental information
Sigma - M1000		Warning	Causes skin irritation. Causes serious eye irritation.	Wash skin thoroughly after handling. IF ON SKIN: Wash with plenty of water. Wear protective gloves/ eye protection/ face protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation occurs: Get medical advice/ attention. If eye irritation persists: Get medical advice/ attention.	

<b>Sodium pyruvate</b>					
Product identifier	Pictogram	Signal Word	Hazard Statements	Precautionary Statements	Supplemental information
Sigma-Aldrich - P2256		Warning	May cause an allergic skin reaction. Causes serious eye irritation.	Avoid breathing dust. IF ON SKIN: Wash with plenty of water. Wash skin thoroughly after handling. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/ eye protection/ face protection.	

<b>Succinyl coenzyme A sodium salt</b>					
Product identifier	Pictogram	Signal Word	Hazard Statements	Precautionary Statements	Supplemental information
Sigma - S1129		Warning	Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation.	Avoid breathing dust. IF ON SKIN: Wash with plenty of water. Wash skin thoroughly after handling. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Use only outdoors or	

				in a well-ventilated area. Wear protective gloves/ eye protection/ face protection.	
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**Sodium succinate dibasic hexahydrate**

Product identifier	Pictogram	Signal Word	Hazard Statements	Precautionary Statements	Supplemental information
Sigma-Aldrich - S2378					No hazard pictogram, no signal word, no hazard statement(s), no precautionary statement(s) required

 **$\alpha$ -Ketoglutaric acid disodium salt hydrate**

Product identifier	Pictogram	Signal Word	Hazard Statements	Precautionary Statements	Supplemental information
Sigma-Aldrich - K3752					No hazard pictogram, no signal word, no hazard statement(s), no precautionary statement(s) required

**Oxaloacetic acid**

Product identifier	Pictogram	Signal Word	Hazard Statements	Precautionary Statements	Supplemental information
Sigma - O4126		Warning	Causes serious eye irritation.	Wash skin thoroughly after handling. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Wear eye protection/ face protection. If eye irritation persists: Get	

				medical advice/ attention.	
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