

# Safety Data Sheet

According to Regulation (EU) No. 1907/2006 (Reach), Annex II

**Product Name:** Malonic Acid

**Revision Date:** 29 April 2015



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

### 1.1 Product Identifier:

**Substances:** Malonic Acid

**Substance Names:** Propanedioic acid (C<sub>3</sub>H<sub>4</sub>O<sub>4</sub>)

**CAS No:** 141-82-2

**Trade name/designation:** Malonic Acid

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

**Relevant identified uses:** Etching

**Uses advised against:** Do not use with oxidizing agents, reducing agents or bases.

### 1.3 Details of the supplier of the safety data sheet

**Supplier:**

Trace Zero  
Manufacturing  
2740 Auburn Court  
Auburn Hills, MI 48326

Trace Zero  
Manufacturing  
1650 N. Burkhart Rd.  
Howell, MI 48855

### 1.4 Emergency Phone Number:

For Hazardous Materials [or Dangerous Goods] Incident  
Spill, Leak, Fire, Exposure, or Accident  
Call CHEMTREC Day or Night  
Within USA and Canada: 1-800-424-9300  
Outside USA and Canada: +1 703-741-5970

# Safety Data Sheet

According to Regulation (EU) No. 1907/2006 (Reach), Annex II

**Product Name:** Malonic Acid

**Revision Date:** 29 April 2015

## Section 2: Hazards Identification

### 2.1 Classification of the substance or mixture

| Classification according to Regulation (EC) No. 1272/2008 [CLP] | SCL and/or M-factor | Classification procedure |
|---|---------------------|--------------------------|
| Not listed  | Not applicable      | Not applicable           |

| Classification according to 67/548/EEC or 1999/45/EC | SCL and/or M-factor | Classification procedure |
|--|---------------------|--------------------------|
| Not listed   | Not applicable      | Not applicable           |

#### 2.1.1 Additional information

### 2.2 Label elements

#### 2.2.1 Labeling according to Regulation (EC) No 1272/2008 [CLP/GHS]

**Product identifier:** Malonic Acid

#### Hazard pictograms



**Signal Word:** Danger

#### Hazard Statements

**H314** Causes severe skin burns and eye damage.

**H302** Harmful if swallowed.

**H319** Causes serious eye irritation.

**H334** May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**H290** May be corrosive to metals.

**H413** May cause long lasting harmful effects to aquatic life.

REV DATE: 29 April 2015

**CONTROLLED DOCUMENT**

Trace Zero Malonic Acid

SDS

# Safety Data Sheet

According to Regulation (EU) No. 1907/2006 (Reach), Annex II

**Product Name:** Malonic Acid

**Revision Date:** 29 April 2015

## *Precautionary Statements*

**P270** Do not eat, drink or smoke when using this product.

**P280** Wear protective gloves/protective clothing/eye protection/face protection.

**P363** Wash contaminated clothing before reuse.

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

**P302 + P352** IF ON SKIN: Wash with plenty of soap and water.

**P261** Avoid breathing dust/fume/gas/mist/vapors/spray.

**P305 + P351 + P338** IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

**P234** Keep only in original container.

**P390** Absorb spillage to prevent material damage.

**P273** Avoid release to the environment.

## *Supplemental Hazard information (EU)*

No data available

## *Special rules for supplemental label elements for certain mixtures*

No data available

## *Additional labeling*

No data available

## **2.3 Other Hazards**

**Inhalation:** High concentrations: causes respiratory tract irritation.

**Skin Contact:** Cause skin burns.

**Eye Contact:** Causes eye burns. Prolonged contact causes serious eye and tissue damage.

**Ingestion:** May be harmful if swallowed.

**Chronic Health Effects:** None known.

**Adverse environmental effects:** The product may affect the acidity in water with risk of harmful effects to aquatic organisms.

**Other adverse hazards:** This product is hazardous according to OSHA 29CFR 1910.1200

REV DATE: 29 April 2015

**CONTROLLED DOCUMENT**

**Trace Zero Malonic Acid**

**SDS**

# Safety Data Sheet

According to Regulation (EU) No. 1907/2006 (Reach), Annex II

**Product Name:** Malonic Acid

**Revision Date:** 29 April 2015

## Section 3: Composition/information on ingredients

### 3.1 Mixtures

**3.1.1 Description of the mixture:** Aqueous solution of Malonic Acid and water.

#### 3.1.2 Hazardous ingredients

| Substance name | CAS No.  | EC No.    | Concentration (Weight %) | Classification according to Regulation (EC) No. 1272 [CLP] | SCL and/or M-factor |
|----------------|----------|-----------|--------------------------|--|---------------------|
| Malonic Acid   | 141-82-2 | 205-503-0 | 20-60%                   | Not listed   | -                   |

| Substance name | CAS No.  | EC No.    | Concentration (Weight %) | Classification according to 67/548/EEC or 1999/45/EC | SCL and/or M-factor |
|----------------|----------|-----------|--------------------------|--|---------------------|
| Malonic Acid   | 141-82-2 | 205-503-0 | 20-60%                   | Not listed   | -                   |

#### 3.1.3 Additional information

No data available

# Safety Data Sheet

According to Regulation (EU) No. 1907/2006 (Reach), Annex II

**Product Name:** Malonic Acid

**Revision Date:** 29 April 2015

## Section 4: First-aid Measures

### 4.1 Description of first aid measures

#### *4.1.1 General information*

Causes skin and eye burns. Prolonged contact causes serious eye and tissue damage.

**4.1.2 Inhalation:** Move injured person into fresh air and keep calm under observation. Seek medical attention if discomfort continues.

**4.1.3 Skin Contact:** Remove contaminated clothes and rinse skin thoroughly with water for at least 15 minutes. Non-abrasive soap may be used along with cold water to reduce swelling of chemical burn. Be sure to carefully clean folds and crevices and creases in the skin. Cover the irritated skin with an emollient. Seek medical attention immediately.

**4.1.4 Eye Contact:** Flush thoroughly with water for at least 15 minutes at eye wash facility. Make sure to remove any contact lenses from the eyes before rinsing. Seek medical attention immediately.

**4.1.5 Ingestion:** DO NOT induce vomiting. Examine mouth to ascertain whether the tissues are damaged. Loosen all restrictive clothing. Rinse mouth thoroughly with water and give large amounts of milk or water, if person is conscious. Seek medical attention immediately.

#### *4.1.6 Self-protection of the first aider*

If the victim is not breathing, perform mouth-to-mouth resuscitation with bag or other mechanical device to prevent further contamination.

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

Skin and eye burns. Prolonged contact causes serious and tissue damage.

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

No data available

# Safety Data Sheet

According to Regulation (EU) No. 1907/2006 (Reach), Annex II

**Product Name:** Malonic Acid

**Revision Date:** 29 April 2015

## Section 5: Firefighting Measures

### 5.1 Extinguishing media

*Suitable Extinguishing Media:* Use fire-extinguishing media appropriate for surrounding materials. Most types of extinguishers are applicable.

*Non-suitable Extinguishing Media:* Water jet.

### 5.2 Special Hazards arising from the substance or mixture

During a fire, gases hazardous to health may be formed.

Hazardous combustion products: Carbon dioxide, Carbon monoxide

### 5.3 Advice for Firefighters

Cool containers exposed to heat with cool water spray and remove container from hazardous surroundings if no risk is involved.

Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

### 5.4 Additional information

Flammability class: 0

# Safety Data Sheet

According to Regulation (EU) No. 1907/2006 (Reach), Annex II

**Product Name:** Malonic Acid

**Revision Date:** 29 April 2015

## Section 6: Accidental Release Measures

### 6.1 Personal Precautions, protective equipment and emergency procedures

#### *6.1.1 For non-emergency personnel*

Avoid inhalation of vapors and contact with skin and eyes by wearing the proper protective clothing.

#### *6.1.2 For emergency responders*

Avoid inhalation of vapors and contact with skin and eyes by wearing the proper protective clothing. Use breathing barriers if necessary.

### 6.2 Environmental precautions

Avoid discharge to drains or watercourses or onto grounds unless authorized by permit. Only flush to drain after area is proven to be neutral pH.

### 6.3 Methods and materials for containment and cleaning up

#### *6.3.1 For containment*

Use proper absorbent material. Dike area and collect water if used to dilute.

#### *6.3.2 For cleaning up*

Avoid discharge to drains or watercourse or grounds unless authorized by permit. For larger spills, use compatible absorbent material and properly dispose material in containers in appropriate waste containers. Solids that absorb hazardous materials take on the properties of the liquid.

#### *6.3.3 Other information*

No data available

### 6.4 Reference for other sections

Section 13: waste disposal

### 6.5 Additional information

No data available

# Safety Data Sheet

According to Regulation (EU) No. 1907/2006 (Reach), Annex II

**Product Name:** Malonic Acid

**Revision Date:** 29 April 2015

## Section 7: Handling and Storage

### 7.1 Precautions for safe handling

Local exhaust is recommended. Avoid inhalation of vapors and contact with skin and eyes.

#### *7.1.2 Protective measures*

Wear eye/face protection. Wear protective gloves and appropriate clothing to prevent skin contact.

#### *7.1.3 Advice on general occupational hygiene*

Keep the workplace clean. Provide adequate ventilation. Eye wash facilities and emergency shower must be available when handling this product.

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

#### **Technical measures and storage conditions**

Store in closed original container at temperatures between 10°C and 32°C, 50 °F to 90 °F. Store away from incompatible materials.

#### **Packaging materials**

Store in original containers. For shipping, use product compatible containers. Secondary containment is suggested to prevent leaks from spreading.

#### **Requirements for vessels**

Ground all equipment containing material.



# Safety Data Sheet

According to Regulation (EU) No. 1907/2006 (Reach), Annex II

**Product Name:** Malonic Acid

**Revision Date:** 29 April 2015

## Section 8: Exposure Controls/Personal Protection

### 8.1 Control Parameters

#### *8.1.1 Occupational exposure limits*

No exposure limit noted for ingredient(s) on ACGIH, OSHA, and WEEL lists. Consult Canadian Provincial Regulations and /or Mexican Regulations on exposure limits, if applicable.

Treated as a general corrosive based on industrial hygiene standards.

### 8.2 Exposure Controls

#### *8.2.1 Appropriate engineering controls*

Provide adequate ventilation. Eyewash facilities and emergency shower must be available when handling this product.

#### *8.2.2 Personal Protective Equipment (PPE)*

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

**Eyes and Face:** Wear approved safety goggles.

**Skin:** Wear protective gloves. Be aware that the liquid may penetrate the gloves. Frequent change is advisable. Suitable gloves can be recommended by the glove supplier.

**Respiratory:** If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA Standard 63 FR 1152, January 8, 1998. Use a NIOSH/MSHA approved air purifying respirator as needed to control exposure. Use positive pressure air supplied respirator for uncontrolled releases or when air purifying respirator limitations may be exceeded. Follow respirator protection program requirements (OSHA 1910.134 and ANSI Z88.2) for all respirator use.

**Thermal Hazards:** Thermally protective apron coat with long sleeves is recommended when the volume of hot material is significant.

REV DATE: 29 April 2015  
**CONTROLLED DOCUMENT**  
Trace Zero Malonic Acid  
SDS

# Safety Data Sheet

According to Regulation (EU) No. 1907/2006 (Reach), Annex II

**Product Name:** Malonic Acid

**Revision Date:** 29 April 2015

## ***8.2.3 Environmental Exposure Controls***

Avoid discharge to drains or watercourses or onto grounds unless authorized by permit.

## ***8.2.4 Consumer exposure control***

Wear appropriate PPE when handling product. Use in well-ventilated area.

# Safety Data Sheet

According to Regulation (EU) No. 1907/2006 (Reach), Annex II

**Product Name:** Malonic Acid

**Revision Date:** 29 April 2015

## Section 9: Physical and Chemical Properties

### 9.1 Physical and Chemical Properties

#### 9.1.1 Appearance

Physical state: Liquid    Color: Colorless    Odor: Odorless    Odor threshold: No data available

#### 9.1.2 Safety relevant basic data

|  |                        |
|--|------------------------|
| pH:                                      | 0-2                    |
| Melting point/freezing point:            | Not applicable         |
| Initial boiling point/boiling range:     | 100 C                  |
| Flashpoint                               | Not applicable         |
| Evaporation Rate:                        | No data available      |
| Flammability (solid, gas)                | Not applicable         |
| Upper explosive limits                   | Not applicable         |
| Lower explosive limits                   | Not applicable         |
| Vapor pressure                           | No data available      |
| Vapor density                            | No data available      |
| Relative density                         | <1.6 g/cm <sup>3</sup> |
| Solubility in Water:                     | Soluble                |
| Partition Coefficient (n-Octanol/water): | No data available      |
| Autoignition Temperature:                | Not applicable         |
| Decomposition Temperature:               | Not applicable         |
| Viscosity, dynamic:                      | No data available      |
| Viscosity, cinematic:                    | No data available      |
| Explosive properties                     | Not applicable         |
| Oxidizing properties                     | Not applicable         |

#### 9.1.3 Physical Hazards

This product is not flammable or combustible.

### 9.2 Other information

No data available

REV DATE: 29 April 2015  
CONTROLLED DOCUMENT  
Trace Zero Malonic Acid  
SDS

# Safety Data Sheet

According to Regulation (EU) No. 1907/2006 (Reach), Annex II

**Product Name:** Malonic Acid

**Revision Date:** 29 April 2015

## Section 10: Stability and Reactivity

### 10.1 Reactivity

Low

### 10.2 Chemical Stability

This product is stable under expected conditions of uses.

### 10.3 Possibility of Hazardous Reactions

Will not occur

### 10.4 Conditions to avoid

Excessive heat

### 10.5 Incompatible materials

Oxidizing agents. Reducing agents. Bases.

### 10.6 Hazardous decomposition products

Carbon Dioxide and Carbon Monoxide (at elevated temperatures)

# Safety Data Sheet

According to Regulation (EU) No. 1907/2006 (Reach), Annex II

**Product Name:** Malonic Acid

**Revision Date:** 29 April 2015

## Section 11: Toxicological Information

### 11.1 Information on toxicological effects

#### 11.1.1 Substances

**Acute Toxicity:**

| Chemical Name | Test Results                |
|---------------|-----------------------------|
| Malonic Acid  | Oral LD50 (Rat): 1310 mg/kg |

**Listed Carcinogens:** None

### Product Information

**Acute Toxicity:** Causes skin and eye burns. May be harmful if swallowed.

**Chronic Toxicity:** None known

### 11.2 Other information

No data available

# Safety Data Sheet

According to Regulation (EU) No. 1907/2006 (Reach), Annex II

**Product Name:** Malonic Acid

**Revision Date:** 29 April 2015

## Section 12: Ecological Information

### 12.1 Toxicity

#### *12.1.1 Aquatic toxicity*

The product may affect the Acidity in water with risk of harmful effect to aquatic organisms in high concentrations. The product is water soluble and may spread in water systems

#### *12.1.2 Sediment toxicity*

No data available

#### *12.1.3 Terrestrial toxicity*

No data available

### 12.2 Persistence and degradability

No data available

### 12.3 Bioaccumulation potential

No data available

### 12.4 Mobility in soil

The product is water soluble.

### 12.5 Results of PBT and vPvB assessment

No data available

### 12.6 Other adverse effects

No data available

### 12.7 Additional toxicological information

No data available

# Safety Data Sheet

According to Regulation (EU) No. 1907/2006 (Reach), Annex II

**Product Name:** Malonic Acid

**Revision Date:** 29 April 2015

## Section 13: Disposal Considerations

### 13.1 Waste treatment methods

Disposal recommendations are based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal. The facility should have the necessary hazardous waste disposal infrastructure in place.

#### 13.1.1 Product/Packaging methods

*Waste codes/waste designations according to EWC/AVV*

RCRA Information: D002

EWC/AVV: Not listed

#### *Packaging*

Use appropriate packaging materials

#### 13.1.2 Waste treatment options

No data available

### 13.2 Additional information

No data available

# Safety Data Sheet

According to Regulation (EU) No. 1907/2006 (Reach), Annex II

**Product Name:** Malonic Acid

**Revision Date:** 29 April 2015

## Section 14: Transportation

|  | <b>Land transport<br/>(ADR/RID)</b>                               | <b>Inland<br/>waterway<br/>transport<br/>(ADN)</b>                | <b>Sea transport<br/>(IMDG)</b>                                   | <b>Air transport<br/>(ICAO-<br/>TI/IATA-<br/>DGR)</b>             |
|--|---|---|---|---|
| <b>14.1 UN No.</b>                         | UN3265  | UN3265  | UN3265  | UN3265  |
| <b>14.2 UN Proper<br/>shipping label</b>   | Corrosive liquid,<br>Acidic, organic,<br>n.o.s. (Malonic<br>Acid) | Corrosive<br>liquid, Acidic,<br>organic, n.o.s.<br>(Malonic Acid) | Corrosive<br>liquid, Acidic,<br>organic, n.o.s.<br>(Malonic Acid) | Corrosive<br>liquid, Acidic,<br>organic, n.o.s.<br>(Malonic Acid) |
| <b>14.3 Transport<br/>hazard class(es)</b> | 8   | 8   | 8   | 8   |
| <b>Hazard label(s)</b>                     | 8   | 8   | F-A, S-B  | 8   |
| <b>14.4 Packing group</b>                  | III   | III   | III   | III   |
| <b>14.5<br/>Environmental<br/>hazards</b>  | No data available   | No data<br>available  | No data<br>available  | No data<br>available  |

### 14.6 Precautions for user

Check for leaks from containers when unloading product. Avoid contact with product.

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

Not listed



# Safety Data Sheet

According to Regulation (EU) No. 1907/2006 (Reach), Annex II

**Product Name:** Malonic Acid

**Revision Date:** 29 April 2015

## Section 15: Regulatory Information

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

### *15.1.1 EU regulations*

No data available: Not listed according to Regulation (EC) No. 1272 [CLP]

### *15.1.2 National regulations: Canada, United States and Mexico*

### US Regulations

**CERCLA Hazardous Substance List (40 CFR 302.4):** Not regulated

### SARA Title III

**Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A):** Not regulated

### **Section 311/312 (40 CFR 370):**

Acute (Immediate)  Chronic (Delayed)  Fire  Reactive  Pressure Generating

**Section 313 Toxic Release Inventory (40 CFR 372):** Not regulated

**Clean Air Act (CAA) Section 112® Accidental Release Prevention (40 CFR 68.130):** Not regulated

**Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3):** Not regulated

**Drug Enforcement Act:** Not regulated

### State Regulations

**California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):** Not regulated

**Massachusetts Right-To-Know Lists:** Not regulated

**Michigan Critical Materials List (Michigan Natural Resources and Environmental Protection Act \*Act. 451 of 1994):** Not regulated

REV DATE: 29 April 2015

**CONTROLLED DOCUMENT**

Trace Zero Malonic Acid

SDS

# Safety Data Sheet

According to Regulation (EU) No. 1907/2006 (Reach), Annex II

**Product Name:** Malonic Acid

**Revision Date:** 29 April 2015

**Minnesota Hazardous Substances List:** Not regulated

**New Jersey Right-To-Know Lists:** Not regulated

**Pennsylvania Right-To-Know Lists:** Not regulated

**Rhode Island Right-To-Know Lists:** Not regulated

**Canadian Controlled Products Regulations:**

This product has been classified according to the hazard criteria of the Canadian Controlled Products Regulations, Section 33, and the MSDS contains all required information.

**WHMIS Classification:** E

**Mexican Dangerous Statement:**

This product is dangerous according to Mexican regulations.

**Inventory Status:** All ingredients are TSCA compliant.

**TSCA**

**TSCA Section 4(a) Final Test Rules & Testing Consent Orders:** Not regulated

**TSCA Section 5(a)(2) Final Significant New Use Rules (SNURs) (40CFR 721, Supt. E):** Not regulated

**TSCA Section 5(e) PMN-Substance Consent Orders:** Not regulated

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D):** Not regulated

# Safety Data Sheet

According to Regulation (EU) No. 1907/2006 (Reach), Annex II

**Product Name:** Malonic Acid

**Revision Date:** 29 April 2015

## Section 16: Other Information

### 16.1 Indication of changes

No data available

### 16.2 Abbreviations and acronyms

Not applicable

### 16.3 Key literature references and sources for data

Client information, product MSDS, ECHA website

### 16.4 Classification for mixtures and used evaluation method according to regulation (EC) 1207/2008 [CLP]

Not listed

### 16.5 Relevant R-, H- and EUH-phrases (number and full text)

**H314** Causes severe skin burns and eye damage

**H302** Harmful if swallowed

**H319** Causes serious eye irritation

**H334** May cause allergy or asthma symptoms or breathing difficulties if inhaled

**H290** May be corrosive to metals

**H413** May cause long lasting harmful effects to aquatic life

### 16.6 Training advice

No data available

### 16.7 Further information

| National Fire Protection Association | Health Hazard | Fire Hazard | Instability | Special Hazard |
|--------------------------------------|---------------|-------------|-------------|----------------|
| NFPA                                 | None          | None        | None        | --             |

| Hazardous Materials Information System | Health Hazard | Flammability | Physical Hazard | Special Hazard |
|--|---------------|--------------|-----------------|----------------|
| HMIS                                   | 3             | 0            | 0               | NA             |

REV DATE: 29 April 2015

CONTROLLED DOCUMENT

Trace Zero Malonic Acid

SDS

# Safety Data Sheet

According to Regulation (EU) No. 1907/2006 (Reach), Annex II

**Product Name:** Malonic Acid

**Revision Date:** 29 April 2015

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REV DATE: 29 April 2015  
**CONTROLLED DOCUMENT**  
Trace Zero Malonic Acid  
SDS