

Safety Data Sheet

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

Product Name: Malonic Acid
Revision Date: 31 JULY 2020



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

1.1 Product Identifier:

Substances: Malonic Acid
Substance Names: Propanedioic acid (C₃H₄O₄)
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

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: 31 JULY 2020

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.

Precautionary Statements

REV DATE: 31 JULY 2020

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: 31 JULY 2020

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: 31 JULY 2020

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: 31 JULY 2020

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: 31 JULY 2020

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

REV DATE: 31 JULY 2020

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: 31 JULY 2020

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

REV DATE: 31 JULY 2020

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: 31 JULY 2020

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

REV DATE: 31 JULY 2020

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: 31 JULY 2020

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. Material evolves carbon dioxide gas slowly. Venting of containers is recommended.

Requirements for vessels

Ground all equipment containing material. Monitor vessels for pressure and expansion.

REV DATE: 31 JULY 2020

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: 31 JULY 2020

Section 8: Exposure Controls/Personal Protection

8.1 Control Parameters

8.1.1 Occupational exposure limits

No exposure limit noted for ingredients(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.

8.2.3 Environmental Exposure Controls

REV DATE: 31 JULY 2020

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: 31 JULY 2020

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: 31 JULY 2020

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 ³
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

Safety Data Sheet

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

Product Name: Malonic Acid

Revision Date: 31 JULY 2020

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)

REV DATE: 31 JULY 2020

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: 31 JULY 2020

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: 31 JULY 2020

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

REV DATE: 31 JULY 2020

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: 31 JULY 2020

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

REV DATE: 31 JULY 2020

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: 31 JULY 2020

Section 14: Transportation

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

REV DATE: 31 JULY 2020

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: 31 JULY 2020

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: 31 JULY 2020

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: 31 JULY 2020

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

REV DATE: 31 JULY 2020

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: 31 JULY 2020

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: 31 JULY 2020

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: 31 JULY 2020

Disclaimer:

This Safety Data Sheet is offered solely for the customer's information, consideration and investigation. Trace Zero, LLC provides no express or implied warranties with respect to the information contained herein. Although all data included in this SDS is believed to be accurate, Trace Zero, LLC makes no representations as to its accuracy, sufficiency or completeness. Conditions of use are beyond Trace Zero, LLC control and therefore users are responsible to verify this data under their own operating conditions to determine whether the product is suitable for their particular purposes, and they assume all risks of their use, handling, and disposal of the product, or from the use of, or reliance upon, information contained herein.