

SAFETY DATA SHEET

1. Identification

Product identifier: MALEIC ACID

Other means of identification

CAS No.: 110-16-7

Recommended use and restriction on use Recommended use: Not available. Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information

Manufacturer

Company Name: Quality Environmental Containers, Inc.
Address: G07 Industrial Park Road • PO Box 1160

Beaver, WV 25813

Telephone:

Customer Service: 800-255-3950

e-mail: info@gecusa.com

Emergency telephone number:

Chemtrec: 800-424-9300

2. Hazard(s) identification

Hazard Classification

Health Hazards

Acute toxicity (Oral)

Acute toxicity (Dermal)

Skin Corrosion/Irritation

Serious Eye Damage/Eye Irritation

Category 2

Skin sensitizer

Category 1

Specific Target Organ Toxicity
Single Exposure

Category 3

Environmental Hazards

Acute hazards to the aquatic Category 2

environment

Chronic hazards to the aquatic Category 2

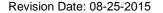
environment

Label Elements

Hazard Symbol:



Signal Word: Warning





Hazard Statement: Harmful if swallowed.

Harmful in contact with skin. Causes skin irritation. Causes serious eye irritation.

Toxic to aquatic life with long lasting effects.

May cause an allergic skin reaction. May cause respiratory irritation.

Precautionary Statement

Prevention: Wash hands thoroughly after handling. Do not eat, drink or smoke when

using this product. Wear protective gloves/protective clothing/eye

protection/face protection. Avoid breathing dust/fume/gas/mist/vapors/spray.

Use only outdoors or in a well-ventilated area. Avoid release to the environment. Contaminated work clothing should not be allowed out of the

workplace.

Response: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel

unwell. Rinse mouth. IF ON SKIN: Wash with plenty of soap and water. Call a POISON CENTER or doctor/physician if you feel unwell. If skin irritation or rash occurs: Get medical advice/attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy

to do. Continue rinsing. If eye irritation persists: Get medical

advice/attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell. Collect spillage. Take off contaminated clothing and wash it before reuse.

Storage: Store in a well-ventilated place. Keep container tightly closed. Store locked

up.

Disposal: Dispose of contents/container to an appropriate treatment and disposal

facility in accordance with applicable laws and regulations, and product

characteristics at time of disposal.

Other hazards which do not result in GHS classification:

None.

3. Composition/information on ingredients

Substances

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%)∗
MALEIC ACID		110-16-7	60 - 100%

^{*} All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

General information: Get medical advice/attention if you feel unwell. Show this safety data sheet

to the doctor in attendance.

Ingestion: Rinse mouth thoroughly. Call a POISON CENTER or doctor/physician if

you feel unwell.

Inhalation: Move to fresh air. Get medical attention if symptoms persist.





Skin Contact: Wash skin thoroughly with soap and water. Get medical attention if irritation

persists after washing. Wash contaminated clothing before reuse.

Eye contact: Flush thoroughly with water. If irritation occurs, get medical assistance.

Most important symptoms/effects, acute and delayed

Symptoms: Irritating to eyes, respiratory system and skin.

Indication of immediate medical attention and special treatment needed

Treatment: Treat symptomatically. Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: In case of fire and/or explosion do not breathe fumes.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing

media:

Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing

media:

None known.

Specific hazards arising from

the chemical:

During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Special fire fighting

procedures:

Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to

flames with water until well after the fire is out.

Special protective equipment

for fire-fighters:

Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in

enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Keep unauthorized personnel away. Use personal protective equipment. See Section 8 of the MSDS for Personal Protective Equipment.

Methods and material for containment and cleaning

up:

Sweep up and place in a clearly labeled container for chemical waste.

Clean surface thoroughly to remove residual contamination.

Notification Procedures: Prevent entry into waterways, sewer, basements or confined areas. Inform

authorities if large amounts are involved.

Environmental Precautions: Prevent further leakage or spillage if safe to do so. Avoid discharge into

drains, water courses or onto the ground.





7. Handling and storage

Precautions for safe handling: Use personal protective equipment as required. Avoid inhalation of dust.

Wash thoroughly after handling. Avoid contact with eyes. Avoid contact with skin. Do not breathe dust/fume/gas/mist/vapors/spray. Wash hands thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Wash contaminated clothing before reuse.

Conditions for safe storage,

including any incompatibilities:

Store locked up. Store in cool, dry place. Store in a well-ventilated place.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

None of the components have assigned exposure limits.

Appropriate Engineering

Controls

No data available.

Individual protection measures, such as personal protective equipment

General information: Good general ventilation (typically 10 air changes per hour) should be used.

Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an

acceptable level.

Eye/face protection: Use tight fitting goggles if dust is generated.

Skin Protection

Hand Protection: Wear protective gloves.

Other: Wear suitable protective clothing.

Respiratory Protection: In case of inadequate ventilation use suitable respirator.

Hygiene measures: 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.

Provide eyewash station and safety shower.

9. Physical and chemical properties

Appearance

Physical state: Solid

Form: Crystals or powder.
Color: White, Colorless

Odor: Mild sour/acidic

Odor threshold: No data available.

PH: No data available.

Melting point/freezing point: 130 - 139 °C

Initial boiling point and boiling range: 135 °C

Flash Point:

Evaporation rate:

Flammability (solid, gas):

Not applicable

No data available.

No data available.





Upper/lower limit on flammability or explosive limits

Flammability limit - upper (%):

Flammability limit - lower (%):

Explosive limit - upper (%):

Explosive limit - lower (%):

No data available.

Vapor density: 4 AIR=1 Relative density: 1.590 (20 °C)

Solubility(ies)

Solubility in water: 788 g/l (25 °C)

Solubility (other): alcohol: Freely Soluble

acetone: Soluble ether: Slightly Soluble

benzene: Practically Insoluble chloroform: Practically Insoluble

Partition coefficient (n-octanol/water): -0.48

Auto-ignition temperature:

Decomposition temperature:

Viscosity:

No data available.

No data available.

No data available.

Other information

Molecular weight: 116.07 g/mol (C4H4O4)

10. Stability and reactivity

Reactivity: No dangerous reaction known under conditions of normal use.

Chemical Stability: Material is stable under normal conditions.

Possibility of Hazardous

Reactions:

Hazardous polymerization does not occur.

Conditions to Avoid: Avoid dust formation. Heat, sparks, flames. Contact with incompatible

materials.

Incompatible Materials: Strong oxidizing agents.

Hazardous Decomposition

Products:

Oxides of Carbon.

11. Toxicological information

Information on likely routes of exposure

Ingestion: Harmful if swallowed.

Inhalation: May be harmful if inhaled.

Skin Contact: Harmful in contact with skin. Causes skin irritation.

Eye contact: Causes serious eye irritation.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral

Product: LD 50 (Rat): 708 mg/kg

LD 50 (Mouse): 2,400 mg/kg





Dermal

Product: LD 50 (Rabbit): 1,560 mg/kg

Inhalation

Product: LC 50 (Rat, 1 h): 0.72 mg/l

Repeated Dose Toxicity

Product: No data available.

Skin Corrosion/Irritation

Product: Causes skin irritation.

Serious Eye Damage/Eye Irritation

Product: Causes serious eye irritation.

Respiratory or Skin Sensitization

Product: May cause an allergic skin reaction.

Carcinogenicity

Product: This substance has no evidence of carcinogenic properties.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ Cell Mutagenicity

In vitro

Product: No mutagenic components identified

In vivo

Product: No mutagenic components identified

Reproductive Toxicity

Product: No components toxic to reproduction

Specific Target Organ Toxicity - Single Exposure

Product: May cause respiratory irritation. May cause drowsiness or dizziness.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Aspiration Hazard

Product: Not classified

Other Effects: None known.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates





Product: No data available.

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.

Persistence and Degradability

Biodegradation

Product: There are no data on the degradability of this product.

BOD/COD Ratio

Product: No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)

Product: No data available on bioaccumulation.

Partition Coefficient n-octanol / water (log Kow)
Product: Log Kow: -0.48

Mobility in Soil: No data available.

Other Adverse Effects: Toxic to aquatic life with long lasting effects.

13. Disposal considerations

Disposal instructions: Discharge, treatment, or disposal may be subject to national, state, or local

laws. Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and

product characteristics at time of disposal.

Contaminated Packaging: Since emptied containers retain product residue, follow label warnings even

after container is emptied.

14. Transport information

DOT

Not regulated.

IMDG

Not regulated.

IATA

Not regulated.

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.





CERCLA Hazardous Substance List (40 CFR 302.4): MALEIC ACID Reportable quantity: 5000 lbs. Superfund Amendments and Reauthorization Act of 1986 (SARA) **Hazard categories** Acute (Immediate) Chronic (Delayed) Fire Reactive Pressure Generating SARA 302 Extremely Hazardous Substance None present or none present in regulated quantities. **SARA 304 Emergency Release Notification Chemical Identity** MALEIC ACID 5000 lbs. SARA 311/312 Hazardous Chemical **Threshold Planning Quantity Chemical Identity** MALEIC ACID 500 lbs SARA 313 (TRI Reporting) None present or none present in regulated quantities. Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3) MALEIC ACID Reportable quantity: 5000 lbs. Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130): None present or none present in regulated quantities. **US State Regulations US. California Proposition 65** No ingredient regulated by CA Prop 65 present. US. New Jersey Worker and Community Right-to-Know Act MALEIC ACID **US. Massachusetts RTK - Substance List** MALEIC ACID Listed US. Pennsylvania RTK - Hazardous Substances MALEIC ACID

US. Rhode Island RTK

No ingredient regulated by RI Right-to-Know Law present.

Listed

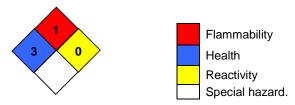


Inventory Status:

Australia AICS: On or in compliance with the inventory Canada DSL Inventory List: On or in compliance with the inventory EINECS, ELINCS or NLP: On or in compliance with the inventory On or in compliance with the inventory Japan (ENCS) List: China Inv. Existing Chemical Substances: On or in compliance with the inventory Korea Existing Chemicals Inv. (KECI): On or in compliance with the inventory Not in compliance with the inventory. Canada NDSL Inventory: Philippines PICCS: On or in compliance with the inventory US TSCA Inventory: On or in compliance with the inventory New Zealand Inventory of Chemicals: On or in compliance with the inventory On or in compliance with the inventory Japan ISHL Listing: Japan Pharmacopoeia Listing: Not in compliance with the inventory.

16.Other information, including date of preparation or last revision

NFPA Hazard ID



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

Issue Date: 12-18-2014

Revision Date: No data available.

Version #: 1.0

Further Information: No data available.



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