spectrum®



SAFETY DATA SHEET

Preparation Date: No data available Product identifier Revision Date: 06/25/2015

Revision Number: G1

Product code: Product Name:

MA150 MALONIC ACID, REAGENT

Other means of identification

Synonyms: CAS #: RTECS # CI#: Propanedioic Acid 141-82-2 OO0175000 Not available

Recommended use of the chemical and restrictions on use

| Recommended use: | No information available. |
|----------------------------|---|
| Uses advised against | No information available |
| Supplier: | Spectrum Chemical Mfg. Corp 14422 South San Pedro St. Gardena, CA 90248 (310) 516-8000 |
| Order Online At: | https://www.spectrumchemical.com |
| Emergency telephone number | Chemtrec 1-800-424-9300 |
| Contact Person: | Martin LaBenz (West Coast) |
| Contact Person: | Ibad Tirmiz (East Coast) |

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

| Acute toxicity - Oral | Category 4 |
|--|------------|
| Skin corrosion/irritation | Category 2 |
| Serious eye damage/eye irritation | Category 1 |
| Specific target organ toxicity (single exposure) | Category 3 |

Label elements

Danger

Hazard statements Harmful if swallowed May be harmful if inhaled Causes skin irritation Causes serious eye damage May cause respiratory irritation. May cause drowsiness or dizziness



Hazards not otherwise classified (HNOC) Not Applicable

Other hazards Not available

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling Do not eat, drink or smoke when using this product Avoid breathing dust/fume/gas/mist/vapors/spray Use only outdoors or in a well-ventilated area Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

Specific treatment (see .? on this label) 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 ON SKIN: Wash with plenty of soap and water If skin irritation occurs: Get medical advice/attention Take off contaminated clothing and wash before reuse IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell Rinse mouth

Precautionary Statements - Storage

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

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Components | CAS-No. | Weight % | Trade Secret |
|------------|---------|----------|--------------|

| 3. COMPO | SITION/INFORM | IATION ON II | NGREDIENTS |
|--------------|---------------|--------------|------------|
| Malonic Acid | 141-82-2 | 100 | * |
| 141-82-2 | | | |

| 4. FIRST AID MEASURES | | |
|--|---|--|
| First aid measures General Advice: | Poison information centers in each State capital city can provide additional assistance for scheduled poisons (13 1126) | |
| Skin Contact: | Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention. If skin irritation persists, call a physician. | |
| Eye Contact: | Flush eye with water for 15 minutes. Get medical attention if irritation occurs. If symptoms persist, call a physician. | |
| Inhalation: | Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention. | |
| Ingestion: | Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Obtain medical attention. | |
| Most important symptoms and effec | ts. both acute and delaved | |
| Symptoms | Causes eye damage. Eye contact may result in redness or pain. Causes skin irritation. Skin contact may result in redness, pain, inflammation, itching, scaling. May cause irritation of respiratory tract. Harmful if swallowed. May be harmful if inhaled. | |
| Indication of any immediate medical | attention and special treatment needed | |
| Notes to Physician: | Treat symptomatically | |
| Protection of first-aiders First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste | | |
| 5. FIRE-FIGHTING MEASURES | | |

| Extinguishing Media Suitable Extinguishing Media: | Carbon dioxide (CO2). Dry chemical. Water spray mist or foam. |
|--|---|
| Unsuitable Extinguishing Media: | No information available. |
| Specific hazards arising from the chemical | |
| Hazardous Combustion Products: | Carbon oxides |
| Specific hazards: | May be combustible at high temperatures |
| Special Protective Actions for Firefighters | |
| Specific Methods: | No information available. |
| Special Protective Equipment for Firefighters: | As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear |

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

| Personal Precautions: | Ensure adequate ventilation. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Remove all sources of ignition. |
|----------------------------------|---|
| Environmental precautions | Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Prevent entry into waterways, sewers, basements or confined areas. |
| Methods and material for contair | ment and cleaning up |
| Methods for containment | Stop leak if you can do it without risk. Cover with plastic sheet to prevent spreading. |
| Methods for cleaning up | Sweep up and shovel into suitable containers for disposal. Clean contaminated surface thoroughly. |

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:

Provide sufficient air exchange and/or exhaust in work rooms. Keep away from incompatible materials.

Safe Handling Advice:

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not ingest. Do not breathe vapours/dust. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store away from incompatible materials.

Incompatible Materials:

Oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

| Components | OSHA | NIOSH | ACGIH | AIHA WHEEL |
|--------------|------|-------|-------|------------|
| Malonic Acid | None | None | None | None |
| 141-82-2 | | | | |

Canada

| Components | Alberta | British Columbia | Ontario | Quebec |
|--------------|---------|------------------|---------|--------|
| Malonic Acid | None | None | None | None |
| 141-82-2 | | | | |

Australia and Mexico

| Components | Australia | Mexico |
|--------------|-----------|--------|
| Malonic Acid | None | None |
| 141-82-2 | | |

Appropriate engineering controls

Engineering measures to reduce exposure:

Ensure adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

| Eye protection: | Safety glasses Safety glasses with side-shields |
|---------------------------|--|
| Skin and body protection: | Chemical resistant apron. Gloves. Long sleeved clothing. |
| Respiratory protection: | Effective dust mask Wear respirator with dust filter. |
| Hygiene measures: | Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke. |

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Solid.

Odor: No information available

Formula: HOOCCH2COOH

Flashpoint (°C/°F): No information available.

Upper Explosion Limit (%): No information available

Melting point/range(°C/°F): 133°C/271.4°F

Bulk density: No information available

Density (g/cm3): No information available

VOC content (g/L): No information available

Viscosity: No information available Appearance: No information available

Taste No information available

Flammability: May be combustible at high temperatures Flash Point Tested according to: Not available

Autoignition Temperature (°C/°F): No information available

Boiling point/range(°C/°F): 135°C/275°F

Specific gravity: 1.67

Evaporation rate: No information available

Odor threshold (ppm): No information available

Miscibility: No information available **Color:** No information available

Molecular/Formula weight: 104.06

Flash point (°C): No data available

Lower Explosion Limit (%): No information available

pH: No information available

Decomposition temperature(°C/°F): No information available

Vapor pressure @ 20°C (kPa): No information available

Vapor density: No information available

Partition coefficient (n-octanol/water): No information available

Solubility: Easily soluble in cold water

10. STABILITY AND REACTIVITY

Reactivity Reactive with oxidizing agents

| Chemical stability Stability: | Stable under recommended storage conditions |
|-------------------------------------|---|
| Possibility of Hazardous Reactions: | Hazardous polymerization does not occur |
| Conditions to avoid: | Incompatible materials. |
| Incompatible Materials: | Oxidizing agents. |
| Hazardous decomposition products: | No information available |
| Other Information | |
| Corrosivity: | No information available |

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure: None.

Acute Toxicity

Component Information

Malonic Acid - 141-82-2

LD50/oral/rat = = 1310 mg/kg Oral LD50 Rat LD50/oral/mouse = No information available LD50/dermal/rat = No information available LD50/dermal/rabbit = No information available LC50/inhalation/rat = 8900 mg/m³ Inhalation LC50 Rat 1 h LC50/inhalation/mouse = No infomation available Other LD50 or LC50information = No information available

Product Information

LD50/oral/rat = VALUE- Acute Tox Oral = 1310mg/kg

LD50/oral/mouse = Value - Acute Tox Oral = No information available

LD50/dermal/rabbit VALUE-Acute Tox Dermal = No information available

LD50/dermal/rat VALUE -Acute Tox Dermal = No information available

LC50/inhalation/rat VALUE-Vapor = No information available VALUE-Gas = No information available VALUE-Dust/Mist = 8900mg/m³ (1-hr)

LC50/Inhalation/mouse

Product code: MA150

Product name: MALONIC ACID, REAGENT

VALUE-Vapor = No information available VALUE - Gas = No information available VALUE - Dust/Mist = No information available

Symptoms

| Skin Contact: | Causes skin irritation. | | | |
|--|---|--|--|--|
| Eye Contact: | Causes serious eye irritation. | | | |
| Inhalation Ingestion | May be harmful if inhaled. May cause respiratory tract irritation. Harmful if swallowed. | | | |
| Aspiration hazard | No information available | | | |
| | | | | |
| Delayed and immediate effects as | s well as chronic effects from short and long-term exposure | | | |
| Delayed and immediate effects as Chronic Toxicity | s well as chronic effects from short and long-term exposure No information available | | | |
| | v | | | |

Carcinogenic effects:

Not considered carcinogenic

| Components | ACGIH - Carcinogens | IARC | NTP | OSHA HCS - Carcinogens | Australia - Prohibited Carcinogenic Substances | Australia - Notifiable Carcinogenic Substances |
|--------------|------------------------|------------|------------|---------------------------|--|--|
| Malonic Acid | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed |

| Reproductive toxicity | No data is available |
|--------------------------------|--------------------------|
| Reproductive Effects: | No information available |
| Developmental Effects: | No information available |
| Teratogenic Effects: | No information available |
| Specific Target Organ Toxicity | |
| STOT - single exposure | No information available |
| STOT - repeated exposure | No information available |
| Target Organs: | No information available |

12. ECOLOGICAL INFORMATION

Ecotoxicity

| Ecotoxicity effects: | No data available. |
|--------------------------------|--------------------------|
| Persistence and degradability: | No information available |
| Bioaccumulative potential: | No information available |
| Mobility: | No information available |

Disposal Methods

Waste from residues / unused products:

Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:

Empty containers should be taken for local recycling, recovery or waste disposal

| Components | RCRA - F Series Wastes | RCRA - K Series Wastes | RCRA - P Series Wastes | RCRA - U Series Wastes |
|--------------|---------------------------|---------------------------|------------------------------|------------------------|
| Malonic Acid | None | None | None | None |

14. TRANSPORT INFORMATION

DOT

| UN-No: | Not Regulated |
|-----------------------|--------------------------|
| Proper Shipping Name: | No information available |
| Hazard Class: | No information available |
| Subsidiary Risk: | No information available |
| Packing Group: | None |
| ERG No: | No information available |
| Marine Pollutant | No data available |
| DOT RQ (lbs): | No information available |
| | |

TDG (Canada)

| Not Regulated |
|--------------------------|
| No information available |
| |

ADR

| UN-No: | Not Regulated |
|-----------------------|--------------------------|
| Proper Shipping Name: | No information available |
| Hazard Class: | No information available |
| Packing Group: | No information available |
| Subsidiary Risk: | No information available |
| Classification Code: | No information available |
| Description: | No information available |
| CEFIC Tremcard No: | No information available |

IMO / IMDG

| UN-No: | Not Regulated |
|-----------------------|--------------------------|
| Proper Shipping Name: | No information available |
| Hazard Class: | No information available |
| Subsidiary Risk: | No information available |
| Packing Group: | No information available |
| Description: | No information available |
| IMDG Page: | No information available |
| Marine Pollutant | No information available |

14. TRANSPORT INFORMATION

| | | _ |
|-----------------------|--------------------------|---|
| MFAG: | No information available | |
| Maximum Quantity: | No information available | |
| RID | | |
| UN-No: | Not Regulated | |
| Proper Shipping Name: | No information available | |
| Hazard Class: | No information available | |
| Subsidiary Risk: | No information available | |
| Packing Group: | No information available | |
| Classification Code: | No information available | |
| Description: | No information available | |
| ICAO | | |
| UN-No: | Not Regulated | |
| Proper Shipping Name: | No information available | |
| Hazard Class: | No information available | |
| Subsidiary Risk: | No information available | |
| Packing Group: | No information available | |
| Description: | No information available | |
| ΙΑΤΑ | | |
| UN-No: | Not Regulated | |
| Proper Shipping Name: | No information available | |
| Hazard Class: | No information available | |
| Subsidiary Risk: | No information available | |
| Packing Group: | No information available | |
| Description: | No information available | |
| | | |

15. REGULATORY INFORMATION

International Inventories

| Components | U.S. TSCA | KOREA KECL | Philippines (PICCS) | Japan ENCS | CHINA | Australia (AICS) | EINECS-No. |
|--------------|-----------|----------------------|------------------------|---------------------|---------|---------------------|-------------------|
| Malonic Acid | Present | Present KE- 23182 | Present | Present (2)- 912 | Present | Present | Present 205-503-0 |

U.S. Regulations

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer: This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity: This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

| Components | Carcinogen | Developmental Toxicity | Male Reproductive Toxicity | Female Reproductive Toxicity: |
|--------------|------------|------------------------|-------------------------------|----------------------------------|
| Malonic Acid | Not Listed | Not Listed | Not Listed | Not Listed |

CERCLA/SARA

| Components | CERCLA - Hazardous | Section 302 Extremely | Section 302 Extremely | Section 313 - | Section 313 - Reporting |
|--------------|------------------------------|-----------------------|-----------------------|-------------------|-------------------------|
| | Substances and their | Hazardous | Hazardous | Chemical Category | de minimis |
| | Reportable Quantities | Substances and TPQs | Substances and RQs | | |
| Malonic Acid | None | None | None | None | None |

U.S. TSCA

| • | TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS) | TSCA 8(d) -Health and Safety Reporting |
|--------------|--|--|
| Malonic Acid | Not Applicable | Not Applicable |

Canada

WHMIS hazard class:

Non-controlled

Malonic Acid D2B

Canada Controlled Products Regulation: This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Inventory

| Components | Canada (DSL) | Canada (NDSL) |
|--------------|--------------|---------------|
| Malonic Acid | Present | Not Listed |

| Components | CEPA Schedule I - Toxic Substances | CEPA - 2010 Greenhouse Gases Subject to Manditory Reporting |
|--------------|------------------------------------|--|
| Malonic Acid | Not listed | Not listed |

EU Classification

R-phrase(s) R22 - Harmful if swallowed. R36 - Irritating to eyes.

S -phrase(s)

none

| Components | Classification | | Safety Phrases |
|--------------|----------------|----------------|----------------|
| Malonic Acid | | No information | |

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger: None.

16. OTHER INFORMATION

Revision Date: Prepared by: 06/25/2015 Sonia Owen

Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet