Section 1: Product & Company Information

Product Identifier: Oxalic Acid

Other Means of Identification
Product Number: 110006

Recommended Use and Restrictions on Use
Recommended Use: No data available.
Restrictions on Use: No data available.

Manufacturer / Importer / Supplier / Distributor Information
Company Name: CORECHEMInc.
Address: 4320 Greenway Drive
Knoxville, TN 37918
USA

Information Telephone Number: 1-865-524-4239
Fax Number: 1-865-524-3375
Website: www.corecheminc.com
Contact Person: Regulatory Manager
E-mail: regulatory@corecheminc.com

Emergency Phone Number: Chemtrec* 1-800-424-9300 / Outside USA 1-703-527-3887 (monitored 24 hours/day)

Section 2: Hazards Identification

GHS Hazard Classification(s)

Physical Hazard(s)
Not classified.

Health Hazard(s)
Acute Toxicity, Oral - 4
Acute Toxicity, Dermal - 4
(Corrosion)Damage/Irritation, Eye - 1

Environmental Hazard(s)
Not classified.

Label Elements
Signal Word
DANGER

Hazard Symbol(s)

Hazard Statement(s)
H302+H312: Harmful if swallowed or in contact with skin.
H318: Causes serious eye damage.

Precautionary Statements
General
Not applicable.

Prevention
P264: Wash face, hands and any exposed skin thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P280: Wear protective gloves/protective clothing/eye protection/face protection.

Response
P301 + P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P302 + P352: IF ON SKIN: Wash with plenty of soap and 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.
P310: Immediately call a POISON CENTER or doctor/physician.
P312: Call a POISON CENTER or doctor/physician if you feel unwell.
P222: Specific measures (see supplemental first aid instructions on this label).
P330: Rinse mouth.
P363: Wash contaminated clothing before reuse.

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Section 3: Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Substance</th>
<th>Chemical Identity ¹</th>
<th>Common Name/Synonym(s)</th>
<th>CAS # ²</th>
<th>Weight %</th>
<th>Impurity or Stabilizing Additive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxalic Acid</td>
<td></td>
<td></td>
<td>144-62-7</td>
<td>100%</td>
<td>No</td>
</tr>
</tbody>
</table>

1. Information regarding the composition and the percent ranges of the mixtures ingredients are not presented as it:Confidential Business Information (CBI). Where a medical emergency exists (as determined by medical professionals), timely disclosure of CBI is assured. The information omitted pertains to only the names of the substances and the concentration in the mixture (product) and can only be requested by a doctor/physician or Local/State/Provincial or Federal Authority.
2. Non-hazardous ingredients are not presented as to protect the proprietary formula of the product.
3. --- Indicates ingredient is a mixture and contains multiple ingredients or may have no identifying CAS number.

Section 4: First-Aid Measures

General Information
Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Wash contaminated clothing before reuse.

Inhalation
Get medical aid immediately. Remove from exposure to fresh air immediately.

Skin Contact
Immediately flush skin with plenty of water for at least 15 minutes, while removing contaminated clothing and shoes. Discard contaminated clothing in a manner, which eliminates further exposure. Get medical attention immediately.

Eye Contact
Immediately flush with large amounts of cool running water for at least 15 minutes, occasionally lifting the upper and lower lids. Seek medical attention.

Ingestion
Do NOT induce vomiting. If victim is conscious and alert give 2-4 cups of milk or water. Get medical aid immediately.

Most important symptoms/effects, acute and delayed
Symptoms
No data available.

Indication of immediate medical attention and special treatment needed
Hazards
No data available.

Treatment
Treat symptomatically and supportively. The use of Calcium Gluconate to precipitate the oxalate should be determined by only qualified medical personnel.

Section 5: Fire-Fighting Measures

General Fire Hazards
Decomposes at melting point.

Suitable (and Unsuitable) Extinguishing Media
Suitable Extinguishing Media
For small fires use water Spray, dry chemical, carbon dioxide or chemical foam.

Unsuitable Extinguishing Media
No data available.

Specific Hazards Arising from the Chemical
No data available.

Special Protective Equipment and Precautions for Firefighters
Special Fire-Fighting Equipment Procedures
Do not release runoff from fire control methods to sewers or waterways.

Special Protective Equipment for Fire-Fighters
Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full facepiece operated in pressure demand or positive pressure mode.

Section 6: Accidental Release Measures
Personal Precautions, Protective Equipment and Emergency Procedures
No data available.

Methods and Materials for Containment and Clean-Up
Absorb spill with inert material, (e.g. dry sand or earth) then place into a chemical waste container. Clean up spills immediately, observing precautions in the protective equipment section.
Large Spills: For large spills dike far ahead of liquid for later disposal. Do not release into sewers or waterways. Absorb the liquid and scrub the area with detergent or water.

Notification Procedures
Follow all applicable OSHA requirements. (29 CFR 1910.120)

Environmental Precautions
Do not release into sewers or waterways.

Section 7: Handling and Storage

Precautions for Safe Handling
Wash thoroughly after handling. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

Conditions for Safe Storage, including any Incompatibilities
Keep container tightly closed in a dry and well-ventilated place. Moisture sensitive. Keep in a dry place. Store in a cool, dry, well-ventilated area.

Section 8: Exposure Controls/Personal Protection

Control Parameters

<table>
<thead>
<tr>
<th>Occupational Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Identity</td>
</tr>
<tr>
<td>Oxalic Acid</td>
</tr>
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<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Biological Limit Values</th>
</tr>
</thead>
</table>
The product does not contain any relevant quantities of hazardous materials with assigned biological limit values.

Appropriate Engineering Controls
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.

Individual protection measures, such as personal protective equipment (PPE)

General Information
Eye wash facilities and emergency shower must be available when handling this product.

Eye/Face Protection
Wear safety glasses with side shields (or goggles) and a face shield. Wear a full-face respirator, if needed.

Skin Protection

Hand Protection
Wear appropriate chemical resistant gloves.

Other
Wear appropriate chemical resistant clothing.

Respiratory Protection
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. Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.

Hygiene Measures
When using, do not eat, drink or smoke. 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. Discard contaminated footwear that cannot be cleaned. Wash hands before breaks and immediately after handling the product. Wash contaminated clothing before reuse. Avoid contact with eyes, skin, and clothing.

Section 9: Physical and Chemical Properties
Upper/Lower Limit on Flammability or Explosive Limits
- Flammability Limit – Upper: No data available.
- Flammability Limit – Lower: No data available.
- Explosive Limit – Upper: Not applicable.
- Explosive Limit – Lower: Not applicable.

Vapor Pressure: Negligible
Vapor Density (air = 1): 4.2
Relative Density (water = 1): (H₂O = 1, at 4°C) 1.65
Solubility(ies):
  - Solubility in water: 138 g/mL, 20 °C
  - Solubility (other): No data available.
Partition coefficient (n-octanol/water): No data available.
Auto-Ignition Temperature: No data available.
Decomposition Temperature: No data available.
Viscosity: No data available.

Other Information:
- Molecular Weight: 126.04
- Formula: No data available.

Section 10: Stability and Reactivity

Reactivity
No data available.

Chemical Stability
Material is stable under normal conditions.

Possibility of Hazardous Reactions
Hazardous polymerization does not occur.

Conditions to Avoid
Excess heat, incompatible materials, dust generation.

Incompatible Materials
Reacts with furfuryl alcohol, silver, sodium chloride, and sodiumhypochlorite. Contact with oxidizing materials may result in an explosive reaction.

Hazardous Decomposition Products
Oxides of carbon.

Section 11: Toxicological Information

Information on routes of exposure
- Ingestion: Harmful if swallowed. Causes severe digestive tract irritation and possible burns.
- Inhalation: Inhalation of dust will produce irritation to gastro-intestinal or respiratory tract, characterized by burning, sneezing and coughing.
- Skin Contact: Skin contact can produce inflammation and blistering. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.
- Eye Contact: Eye contact can result in corneal damage or blindness. Inflammation of the eye is characterized by redness, watering, and itching.

Information on Toxicological Effects
- Acute Toxicity (List all possible routes of exposure)
  - Oral
    - Oxalic Acid: LD₅₀ (Rat): 1,080 mg/kg
  - Dermal
    - Oxalic Acid: LD₅₀ (Rabbit): 20,000 mg/kg
  - Inhalation
    - No data available.
  - Repeated Dose Toxicity
    - No data available.

Skin Corrosion/Irritation
No data available.

Serious Eye Damage/Eye Irritation
No data available.

Respiratory/Skin Sensitization
No data available.

Carcinogenicity
- IARC Monographs on the Evaluation of Carcinogenic Risks to Humans
  No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- US. National Toxicology Program (NTP) Report on Carcinogens
  No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
- US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)
Section 12: Ecological Information

Ecotoxicity
Acute Hazards to the Aquatic Environment
   Fish
      Oxalic Acid: LC50 (Shore Crab) 240 mg/L/48h

Aquatic Invertebrates
   No data available.

Toxicity to Aquatic Plants
   No data available.

Chronic Hazards to the Aquatic Environment
   Fish
      No data available.

Aquatic Invertebrates
   No data available.

Toxicity to Aquatic Plants
   Chronic plant toxicity=100 ppm

Persistence and Degradability
   Biodegradation
      Expected to be readily biodegradable.
   BOD/COD Ratio
      No data available.

Bioaccumulative Potential
   Bioconcentration Factor (BCF)
      No data available on bioaccumulation.
   Partition Coefficient n-octanol/water (log Kow)
      No data available.

Mobility in Soil
   No data available.

Other Adverse Effects
   No data available.

Section 13: Disposal Considerations

Disposal Instructions
   Contact you supplier or a licensed contractor for detailed recommendations. Follow applicable Federal, State, and local regulations.

Contaminated Packaging
   Handle contaminated packages in the same way as the substance itself. Emptyed containers may retain hazardous residue and explosive vapors. Keep away from heat, sparks, and flames. Do not cut, puncture, or weld on or near this container. Follow label warnings until container is thoroughly cleaned or destroyed.

Section 14: Transportation Information

US Department of Transportation (DOT)
UN Number: UN3261
UN Proper Shipping Name: Corrosive Solid, Acidic, Organic, n.o.s.
Technical Name: (contains oxalic acid)
Hazard Class: 8
Subsidiary Hazard Risk: -
Packing Group: III
DOT Label/Placard Exemptions: Not determined
Special Provisions: IIB, IP3, T1, TP33
Packaging Non-Bulk: 49CFR 173.154
Packaging Bulk: 49CFR 173.240
Reportable Quantity (RQ): None
Marine Pollutant: No
Poison Inhalation Hazard: No
Special precautions for user: Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.
Emergency Response Guidebook (ERG) #: 154

Important Note: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Consult your company's Hazardous Materials/Dangerous Goods expert for information specific to your situation.

Section 15: Regulatory Information

US Federal Regulations
Toxic Substance Control Act (TSCA), Chemical Substance Inventory, Section 8(b)
This product or ingredient(s) are listed on the TSCA inventory. Any impurities present in this product are exempt from listing.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substance List (40 CFR 302.4)
No chemical(s) in this material are subject to the reporting requirements of CERCLA

Clean Air Act (CAA), Section 112(r)
No chemical(s) in this material are subject to the reporting requirements of CAA.

Emergency Planning and Community Right-To-Know Act (EPCRA)
EPCRA 302 Extremely Hazardous Substance
No chemical(s) in this material are subject to the reporting requirements of SARA Title III, Section 302.

EPCRA 304 Emergency Response Notification
No chemical(s) in this material are subject to the reporting requirements of SARA Title III, Section 304.

EPCRA311/312Emergency and Hazardous Materials Reporting
Fire Hazard: No
Sudden Release of Pressure: No
Reactive: No
Acute (Immediate) Health Hazard: Yes
Chronic (Delayed) Health Hazard: Yes

EPCRA 313 Toxic Chemical Release Inventory (TRI) Reporting
This material does not contain any chemical(s) with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US State Regulations
California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65)
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Important Note: Due to the changing nature of regulatory requirements, the information in this document should NOT be considered all-inclusive or authoritative. Users should make their own investigations to determine the suitability of the information for their particular purposes. International, Federal, State and Local regulations should be consulted to determine compliance with all required reporting requirements.

Section 16: Other Information

Hazardous Materials Identification System (HMIS*) Classification
Health Hazard: 3
Chronic Health Hazard: *
Flammability: 1
Physical Hazard: 0
Hazard Rating: 0–Minimal / 1–Slight / 2–Moderate / 3–Serious / 4–Severe

National Fire Protection Association (NFPA 704) Rating
Health Hazard: 3
Fire Hazard: 1
Reactivity Hazard: 0
Special: N/A
Hazard Rating: 0–Minimal / 1–Slight / 2–Moderate / 3–Serious / 4–Severe

Prepared By: Regulatory Manager
Version #: 001
Issue Date: August 19, 2015
Key to Abbreviations and Acronyms

ATE – Acute Toxicity Estimate
BCF – Bioconcentration Factor
EC50 – Effective concentration, 50%
IDLH – Immediately Dangerous to Life and Health
Kg – Kilogram
L – Liter
lb – Pound
LC50 – Lethal Concentration, 50%
LD50 – Lethal Dose, 50%
mg – milligram
ml – milliliter
N/A – Not Applicable
N/D – Not Determined
PEL – Permissible Exposure Limit
REL – Recommended Exposure Limit
STEL – Short-term Exposure Limit
TWA – Time weighted average

ACGIH – American Conference of Industrial Hygienists
AIHA – American Industrial Hygiene Association
BEI – Biological Exposure Indices
CAS – Chemical Abstracts Service
DOT – US Department of Transportation
EPA – US Environmental Protection Agency
GHS – Globally Harmonized System of Classification and Labelling of Chemicals
IARC – International Agency for Research on Cancer
IATA – International Air Transport Association
IBC – Intermediate Bulk Container
IMDG – International Maritime Dangerous Goods
NIOSH – National Institute for Occupational Safety and Health
NTP – National Toxicology Program
OSHA – US Occupational Health and Safety Administration
SARA – US EPA Superfund Amendments and Reauthorization Act
TSCA – US EPA Toxic Substances Control Act
UN – United Nations

References

HSDS* – Hazardous Substances Data Bank

Disclaimer

The information in this SDS was obtained from sources which we believe are reliable. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS CORRECTNESS. The conditions or methods of handling, storage, use, and disposal of the product are beyond our control and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.