SAFETY DATA SHEET

1. Identification

Product identifier: LBA™
Other means of identification: None.
Recommended use: Not available.
Recommended restrictions: None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer
- Company name: CETCO, an MTI Company
- Address: 2870 Forbs Avenue, Hoffman Estates, IL 60192, United States
- Telephone: General Information 800 527-9948
- Website: http://www.cetco.com/
- E-mail: safetydata@mineralstech.com

Emergency phone number
- Emergency: 1.866.519.4752/1 760 476 3962

Supplier: Not available.

2. Hazard identification

Physical hazards: Not classified.

Health hazards
- Skin corrosion/irritation: Category 1
- Serious eye damage/eye irritation: Category 1
- Sensitization, skin: Category 1

Environmental hazards: Not classified.

Label elements

Signal word: Danger
Hazard statement: Causes severe skin burns and eye damage. May cause an allergic skin reaction. Causes serious eye damage.

Precautionary statement

Prevention
- Keep out of reach of children. Read label before use. Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection.

Response
- If medical advice is needed, have product container or label at hand. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor/. Specific treatment (see on this label). If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

Storage
- Store locked up.

Disposal
- Dispose of contents/container in accordance with local/regional/national/international regulations.
- Dispose of contents/container in accordance with local regulation.

Other hazards: None known.

Supplemental information

42% of the mixture consists of component(s) of unknown acute dermal toxicity. 42% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 42% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.
3. Composition/information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>HYDROXYACETIC ACID</td>
<td></td>
<td>79-14-1</td>
<td>40 - &lt; 50</td>
</tr>
<tr>
<td>TETRASODIUM EDTA</td>
<td></td>
<td>64-02-8</td>
<td>&lt; 1</td>
</tr>
</tbody>
</table>

Other components below reportable levels

DSD: Directive 67/548/EEC.
#: This substance has been assigned Community workplace exposure limit(s).
M: M-factor
PBT: persistent, bioaccumulative and toxic substance.
vPvB: very persistent and very bioaccumulative substance.

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume. *Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

Composition comments

The full text for all R- and H-phrases is displayed in section 16. This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

4. First-aid measures

Inhalation
If exposed to excessive levels of dusts or fumes, remove to fresh air and get medical attention if cough or other symptoms develop. Move to fresh air. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention immediately.

Skin contact
Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if irritation develops or persists. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. For minor skin contact, avoid spreading material on unaffected skin. Wash contaminated clothing before reuse. Wash clothing separately before reuse.

Eye contact
Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Ingestion
Call a physician or poison control center immediately. Rinse mouth thoroughly. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn’t get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Most important symptoms/effects, acute and delayed
Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed
Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

General information
In case of shortness of breath, give oxygen. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Keep victim warm. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media
Foam. Powder. Dry chemical, CO2, water spray or regular foam. Use any media suitable for the surrounding fires.

Unsuitable extinguishing media
Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical
During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Fire fighting equipment/instructions
Move containers from fire area if you can do so without risk.

Specific methods
Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards
No unusual fire or explosion hazards noted. This material will not burn.
6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**
Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

**Methods and materials for containment and cleaning up**
Stop leak if you can do so without risk. Use water spray to reduce vapors or divert vapor cloud drift. Should not be released into the environment.

Large Spills: Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. After removal flush contaminated area thoroughly with water. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Large spills may be neutralized with dilute alkaline solutions of soda ash, or lime.

**Environmental precautions**
Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

**Precautions for safe handling**
Do not get this material in your eyes, on your skin, or on your clothing. Wash hands before eating. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Do not get this material on clothing. When using, do not eat, drink or smoke. Do not use in areas without adequate ventilation. Wear appropriate personal protective equipment. Wash thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices. Remove and wash contaminated clothing before re-use.

**Conditions for safe storage, including any incompatibilities**
Store locked up. Keep in a dry, cool and well-ventilated place. Store in tightly closed container.

Keep this material away from food, drink and animal feed. Keep out of the reach of children. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

**Occupational exposure limits**
No exposure limits noted for ingredient(s).

**Biological limit values**
No biological exposure limits noted for the ingredient(s).

**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. Ensure adequate ventilation, especially in confined areas. Eye wash facilities and emergency shower must be available when handling this product. Good general ventilation should be sufficient to control airborne levels.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**
Face shield is recommended. Chemical respirator with organic vapor cartridge and full facepiece.

**Skin protection**

**Hand protection**
Wear appropriate chemical resistant gloves. Applicable for industrial settings only.

**Other**
Do not get this material in contact with skin. Wear chemical protective equipment that is specifically recommended by the manufacturer. Use of an impervious apron is recommended. It may provide little or no thermal protection. Applicable for industrial settings only. Launder contaminated clothing before reuse.

**Respiratory protection**
Chemical respirator with organic vapor cartridge and full facepiece. Applicable for industrial settings only. Not normally needed.

**Thermal hazards**
Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations**
When using, do not eat, drink or smoke. Do not get this material on clothing. 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. Contaminated work clothing should not be allowed out of the workplace. Use good industrial hygiene practices in handling this material. Eye wash fountain and emergency showers are recommended.
9. Physical and chemical properties

Appearance
- Physical state: Liquid.
- Form: Liquid.
- Color: Amber.

Odor: Slight. Of burnt sugar.
Odor threshold: Not available.

pH: 1.2 @ 25°C

Melting point/freezing point: 50 °F (10 °C) - precipitates / 158.9 °F (70.5 °C) estimated

Initial boiling point and boiling range: 233.6 °F (112 °C)

Flash point: Not available.

Evaporation rate: Not available.

Flammability (solid, gas): Not applicable.

Upper/lower flammability or explosive limits
- Flammability limit - lower (%): Not available.
- Flammability limit - upper (%): Not available.
- Explosive limit - lower (%): Not available.
- Explosive limit - upper (%): Not available.

Vapor pressure: 0.01 hPa estimated

Vapor density: Not available.

Relative density: Not available.

Solubility(ies)
- Solubility (water): Not available.

Partition coefficient (n-octanol/water): Not available.

Auto-ignition temperature: Not available.

Decomposition temperature: Not available.

Viscosity: Not available.

Other information
- Density: 1.23 g/cm3 estimated
- Explosive properties: Not explosive.
- Oxidizing properties: Not oxidizing.
- Percent volatile: 48 % estimated
- Specific gravity: 1.17

10. Stability and reactivity

Reactivity: Reacts violently with strong alkaline substances. This product may react with reducing agents.

Chemical stability: Stable at normal conditions.

Possibility of hazardous reactions: Hazardous polymerization does not occur. Will not occur.

Conditions to avoid: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Contact with incompatible materials.

Incompatible materials: This product may react with strong oxidizing agents. Bases. Reducing agents. Contact with most metals produces highly flammable hydrogen gas.

Hazardous decomposition products: Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

11. Toxicological information

Information on likely routes of exposure
- Inhalation: May cause damage to organs by inhalation. May cause irritation to the respiratory system.
Skin contact: Causes severe skin burns. May cause an allergic skin reaction.
Eye contact: Causes serious eye damage.
Ingestion: Causes digestive tract burns.

Symptoms related to the physical, chemical and toxicological characteristics:
Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Information on toxicological effects

Acute toxicity: Causes burns. Not known.

<table>
<thead>
<tr>
<th>Product</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>LBA™</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inhalation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LC50</td>
<td>Rat 10.27 mg/l/4h</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>HYDROXYACETIC ACID (CAS 79-14-1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inhalation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LC50</td>
<td>Rat 7.7 mg/l/4h</td>
</tr>
<tr>
<td></td>
<td>Oral</td>
<td>Rat 1950 mg/kg</td>
</tr>
<tr>
<td>TETRASODIUM EDTA (CAS 64-02-8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Oral</td>
<td>Rat &gt; 2000 mg/kg</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10000 mg/kg</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation: Causes severe skin burns and eye damage.
Serious eye damage/eye irritation: Causes serious eye damage.

Respiratory or skin sensitization
- Respiratory sensitization: Not a respiratory sensitizer.
- Skin sensitization: May cause an allergic skin reaction.

Germ cell mutagenicity: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity: Not available.

Reproductive toxicity: This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure: Not classified.
Specific target organ toxicity - repeated exposure: Not classified.
Aspiration hazard: Not an aspiration hazard.
Chronic effects: May cause damage to organs through prolonged or repeated exposure.

12. Ecological information
Ecotoxicity: This material is not expected to be harmful to aquatic life. Because of the low pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems. No data available for this product.

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>HYDROXYACETIC ACID (CAS 79-14-1)</td>
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<tr>
<td></td>
<td>Aquatic</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fish</td>
<td>LC50 Fish 5000.0001 mg/L, 96 Hours</td>
</tr>
<tr>
<td>Components</td>
<td>Species</td>
<td>Test Results</td>
</tr>
<tr>
<td>------------</td>
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</tr>
<tr>
<td>TETRASODIUM EDTA (CAS 64-02-8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aquatic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Algae</td>
<td>IC50 Algae</td>
<td>1.01 mg/L, 72 Hours</td>
</tr>
<tr>
<td>Fish</td>
<td>LC50 Fish</td>
<td>41 mg/L, 96 Hours</td>
</tr>
</tbody>
</table>

**Persistence and degradability**
No data is available on the degradability of this product.

**Bioaccumulative potential**

**Partition coefficient n-octanol / water (log Kow)**
HYDROXYACETIC ACID -1.11

**Mobility in soil**
No data available.

**Other adverse effects**
No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

**Disposal instructions**
Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Local disposal regulations**
Dispose in accordance with all applicable regulations.

**Hazardous waste code**
The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**Waste from residues / unused products**
Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging**
Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

**TDG**

<table>
<thead>
<tr>
<th>UN number</th>
<th>UN3265</th>
<th>CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Subsidiary risk</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Packing group</td>
<td>II</td>
<td></td>
</tr>
<tr>
<td>Environmental hazards</td>
<td>D</td>
<td></td>
</tr>
</tbody>
</table>

**Special precautions for user**
Read safety instructions, SDS and emergency procedures before handling.

**IATA**

<table>
<thead>
<tr>
<th>UN number</th>
<th>UN3265</th>
<th>Corrosive liquid, acidic, organic, n.o.s. (HYDROXYACETIC ACID)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Subsidiary risk</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Packing group</td>
<td>II</td>
<td></td>
</tr>
<tr>
<td>Environmental hazards</td>
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<td></td>
</tr>
<tr>
<td>ERG Code</td>
<td>8L</td>
<td></td>
</tr>
</tbody>
</table>

**Special precautions for user**
Read safety instructions, SDS and emergency procedures before handling.

**Other information**
Passenger and cargo aircraft: Allowed with restrictions.
Cargo aircraft only: Allowed with restrictions.

**IMDG**

<table>
<thead>
<tr>
<th>UN number</th>
<th>UN3265</th>
<th>CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Subsidiary risk</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Packing group</td>
<td>II</td>
<td></td>
</tr>
</tbody>
</table>
Environmental hazards
Marine pollutant: No.
EmS: F-A, S-B

Special precautions for user
Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
IATA; IMDG; TDG

15. Regulatory information

Canadian regulations
This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.

Controlled Drugs and Substances Act
Not regulated.

Export Control List (CEPA 1999, Schedule 3)
Not listed.

Greenhouse Gases
Not listed.

Precursor Control Regulations
Not regulated.

International regulations
Young people under 18 years old are not allowed to work with this product according to EU Directive 94/33/EC on the protection of young people at work.

Stockholm Convention
Not applicable.

Rotterdam Convention
Not applicable.

Kyoto protocol
Not applicable.

Montreal Protocol
Not applicable.

Basel Convention
Not applicable.

International Inventories

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>No</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>No</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>No</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>No</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>No</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>No</td>
</tr>
</tbody>
</table>
Country(s) or region | Inventory name | On inventory (yes/no) *
---|---|---
Taiwan | Taiwan Chemical Substance Inventory (TCSI) | No
United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes

*A “Yes” indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A “No” indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information

Issue date | 14-August-2018
Revision date | 05-September-2018
Version # | 13

Further information
This safety datasheet only contains information relating to safety and does not replace any product information or product specification.

References
ACGIH
EPA: AQUIRE database
NLM: Hazardous Substances Data Base
US. IARC Monographs on Occupational Exposures to Chemical Agents

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The manufacturer expressly does not make any representations, warranties, or guarantees as to its accuracy, reliability or completeness nor assumes any liability, for its use. It is the user's responsibility to verify the suitability and completeness of such information for each particular use.

Third party materials: Insofar as materials not manufactured or supplied by this manufacturer are used in conjunction with, or instead of this product, it is the responsibility of the customer to obtain, from the manufacturer or supplier, all technical data and other properties relating to these and other materials and to obtain all necessary information relating to them. No liability can be accepted in respect of the use of this product in conjunction with materials from another supplier. CETCO, an MTI Company cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

Revision information
Hazard identification: Hazard statement
Hazard identification: GHS Symbols
Exposure controls/personal protection: Hand protection
GHS: Classification