SAFETY DATA SHEET

SECTION 1: Identification

Product identifier
Product number
R-0011L

Product name
Calcium Indicator Liquid

Recommended use and restrictions
To be used in accordance with manufacturer instructions or under the direct guidance of the manufacturer.

Manufacturer
Taylor Technologies, Inc.
31 Loveton Circle
Sparks, MD 21152
Phone: (410) 472-4340
Emergency phone: (800) 837-8548

SECTION 2: Hazard(s) identification

Physical hazards
Flammable liquids
Category 2

Health hazards
Eye damage/irritation
Category 2A
Specific target organ toxicity, single exposure
Category 3 Narcotic effects
Specific target organ toxicity, single exposure
Category 3 Respiratory tract irritation

Environmental hazards
No data available

Label elements

Signal word
Danger

Hazard statements
Highly flammable liquid and vapor. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness.

Precautionary statements

Prevention
Keep away from heat/sparks/open flames. -No smoking. Keep container tightly closed. Ground or bond container and receiving equipment. Use explosion-proof electrical/ventilating equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wear protective gloves/protective clothing/eye protection/face protection if contact is likely to occur. Wash skin thoroughly after handling. Avoid breathing mist or vapors. Use only outdoors or in a well-ventilated area.

Response
IF ON SKIN (OR HAIR): Take off immediately all contaminated clothing. Rinse skin with water. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a physician or poison control center if you feel unwell. 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. IN CASE OF FIRE: Use alcohol-resistant foam, carbon dioxide, dry chemical powder, or water fog to extinguish.

Storage
Keep tightly capped. Store out of direct sunlight between 36°F–85°F. Store in a well-ventilated place. Store locked up.

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

Hazard(s) not otherwise classified
No data available
SECTION 3: Composition/information on ingredients

<table>
<thead>
<tr>
<th>Mixture</th>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triethanolamine</td>
<td>Tris(2-hydroxyethyl)amine</td>
<td>102-18-5</td>
<td>75–85</td>
<td></td>
</tr>
<tr>
<td>Isopropanol</td>
<td>Isopropyl alcohol</td>
<td>67-63-0</td>
<td>15–25</td>
<td></td>
</tr>
<tr>
<td>Calcon</td>
<td>Mordant black 17</td>
<td>2538-85-4</td>
<td>0.1–5</td>
<td></td>
</tr>
</tbody>
</table>

SECTION 4: First-aid measures

If inhaled
Remove individual to fresh air. Seek medical attention if breathing becomes difficult or if respiratory irritation develops. Give oxygen or artificial respiration if needed.

In case of skin contact
Immediately flush skin with plenty of water for at least 20 minutes. If clothing comes in contact with the product, the clothing should be removed and laundered before reuse. Seek medical attention if irritation develops.

In case of eye contact
Immediately flush eyes with plenty of water for at least 20 minutes. Remove contact lenses if present and easy to do. Continue rinsing. If symptoms persist or in all cases of concern, seek medical advice.

If swallowed
Rinse mouth. Never give anything by mouth to a person who is unconscious or is having convulsions. Do NOT induce vomiting unless directed by physician. If vomiting occurs, keep head low so that stomach content does not get into the lungs. If symptoms persist or in all cases of concern, seek medical advice.

Most important symptoms and effects, both acute and delayed
Refer to section 2 and/or section 11 of the SDS for the most important known symptoms and effects.

Indication of any immediate medical attention and special treatment needed
Provide general supportive measures and treat symptomatically.

General information
Ensure medical personnel are aware of the material(s) involved and take precautions to protect themselves.

SECTION 5: Firefighting measures

Extinguishing media

| Suitable extinguishing media | Alcohol-resistant foam, carbon dioxide, dry chemical powder, or water fog |
| Unsuitable extinguishing media | Do not use a heavy water stream. Use of heavy stream of water may spread fire. |

Specific hazards arising from the substance or mixture

| Fire hazard | Flammable liquid and vapor. Vapors may travel considerable distance to a source of ignition and flash back. This product is a poor conductor of electricity and can be electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur. To reduce potential static discharge, use proper bonding and grounding procedures. This material may be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, or mechanical/electrical equipment). Vapors are heavier than air and may spread along floors. |
| Explosion hazard | Vapors may form explosive mixtures with air. This material may be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, or mechanical/electrical equipment). Vapors are heavier than air and may spread along floors. |

Reactivity
Hazardous reactions will not occur under normal conditions.

Hazardous combustion products
Carbon oxides, nitrogen oxides, and peroxides

Advice for firefighters

Precautionary measures
Exercise caution when fighting any chemical fire; hazardous fumes will be present.

Firefighting equipment/instructions
Use water spray or fog for cooling exposed containers.

Protection during firefighting
Do not enter fire area without proper protective equipment, including respiratory protection.

Other information
Refer to section 9 of the SDS for flammability properties.

SECTION 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 cleanup. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protective equipment, refer to section 8 of the SDS.
Environmental precautions
Avoid discharge into drains, watercourses, or onto the ground.

Methods and material for containment and cleaning up
Ventilate the contaminated area. Eliminate all ignition sources (no smoking, flames, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Dike the spilled material where this is possible. Stop leak if it can be done without risk. Absorb spillage to prevent material damage. Absorb in vermiculite, dry sand or earth, and place into containers. Prevent entry into waterways, sewers, basements, or confined areas. Following product recovery, flush area with water to remove residual contamination. Never return spills to original containers for reuse. Contaminated absorbent material may pose the same hazards as the spilled product. In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Reference to other sections
For exposure controls and personal protection, refer to section 8 of the SDS. For waste disposal, refer to section 13 of the SDS.

SECTION 7: Handling and storage

Precautions for safe handling
Vapors may form explosive mixtures with air. Keep away from sources of ignition. NO SMOKING. Do not handle, store, or open near an open flame, sources of heat or sources of ignition. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. For personal protective equipment, refer to section 8 of the SDS. Keep away from incompatibles. Observe good industrial hygiene practices. Label containers appropriately.

Conditions for safe storage, including any incompatibilities
Keep tightly capped. Store out of direct sunlight between 36°F–85°F. Store in a well-ventilated place. Store locked up. Store away from incompatible materials (refer to section 10 of the SDS).

SECTION 8: Exposure controls/personal protection

Occupational exposure limits

ACGIH Threshold Limit Values

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropanol (CAS 67-63-0)</td>
<td>STEL</td>
<td>400 ppm</td>
<td>Not applicable</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>200 ppm</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Triethanolamine (CAS 102-71-6)</td>
<td>TWA</td>
<td>5 mg/m³</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

NIOSH: Pocket Guide to Chemical Hazards

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropanol (CAS 67-63-0)</td>
<td>STEL</td>
<td>1225 mg/m³</td>
<td>Not applicable</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>980 mg/m³</td>
<td>Not applicable</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>500 ppm</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropanol (CAS 67-63-0)</td>
<td>PEL</td>
<td>980 mg/m³</td>
<td>Not applicable</td>
</tr>
<tr>
<td></td>
<td></td>
<td>400 ppm</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

Biological limit values

ACGIH Biological Exposure Indices

<table>
<thead>
<tr>
<th>Components</th>
<th>Value</th>
<th>Determinant</th>
<th>Specimen</th>
<th>Sampling Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropanol (CAS 67-63-0)</td>
<td>40 mg/L</td>
<td>Acetone</td>
<td>Urine</td>
<td>Not available</td>
</tr>
</tbody>
</table>

Exposure controls

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. Eyewash facilities and emergency shower must be available when handling this product.

Personal protective equipment
Eye/face protection
Wear appropriate chemical safety goggles if contact is likely to occur.

Skin protection
Wear appropriate chemical-resistant gloves and clothing if contact is likely to occur.

Body protection
Wear appropriate protective clothing.

Respiratory protection
In case of insufficient ventilation, wear suitable respiratory equipment. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fumes at levels exceeding the exposure limits. Advice should be sought from respiratory protection suppliers.
SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Form</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Dark purple to dark blue</td>
</tr>
<tr>
<td>Odor</td>
<td>Alcohol</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>10.3</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>500–600°F (260–315.56°C)</td>
</tr>
<tr>
<td>Flash point</td>
<td>64°F (17.8°C) Closed cup; LEL 2%; UEL 12%</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Flammable</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapor density</td>
<td>2</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in all proportions</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>No data available</td>
</tr>
<tr>
<td>(n-octanol/water)</td>
<td></td>
</tr>
<tr>
<td>Viscosity</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
</tr>
</tbody>
</table>

SECTION 10: Stability and reactivity

Reactivity
Hazardous reactions will not occur under normal conditions.

Chemical stability
Stable under recommended handling and storage conditions (refer to section 7 of the SDS)

Possibility of hazardous reactions
No dangerous reaction known under conditions of normal use

Conditions to avoid
Heat, sparks, open flames, and other ignition sources. Temperatures exceeding the flash point. Direct sunlight. Contact with incompatible materials. Do not use in areas without adequate ventilation.

Incompatible materials
Alkali metals, aluminum, oxidizing agents, potassium t-butoxide, some plastics, and strong acids

SECTION 11: Toxicological information

Information on toxicological effects

Inhalation
May cause respiratory irritation. May cause drowsiness or dizziness.

Skin contact
May cause slight or mild transient irritation

Eye contact
Causes serious eye irritation

Ingestion
May cause irritation, nausea, vomiting, and diarrhea

Most important symptoms/effects, acute and delayed
Direct skin contact may cause slight or mild transient irritation. Symptoms may include redness and itching.

Direct eye contact may cause severe damage including blindness. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Inhalation of mists can cause respiratory irritation. Symptoms may include coughing and breathing difficulties. May cause drowsiness or dizziness. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness, and other central nervous system problems.

Ingestion may cause gastrointestinal irritation, nausea, vomiting, diarrhea, as well as depression of the central nervous system.

Acute toxicity
This product is not classified as an acute toxicity hazard. See below for individual ingredient acute toxicity data.
## Components

<table>
<thead>
<tr>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropanol (CAS 67-63-0)</td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Dermal</strong></td>
<td></td>
</tr>
<tr>
<td>LD₅₀</td>
<td>Rabbit 12890 mg/kg</td>
</tr>
<tr>
<td><strong>Inhalation</strong></td>
<td></td>
</tr>
<tr>
<td>LC₅₀</td>
<td>Rat 17000 ppm, 4 hours (vapor)</td>
</tr>
<tr>
<td><strong>Oral</strong></td>
<td></td>
</tr>
<tr>
<td>LD₅₀</td>
<td>Rat 4720 mg/kg</td>
</tr>
<tr>
<td>Triethanolamine (CAS 102-71-6)</td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Oral</strong></td>
<td></td>
</tr>
<tr>
<td>LD₅₀</td>
<td>Mouse 5846 mg/kg</td>
</tr>
<tr>
<td>LD₅₀</td>
<td>Rabbit 2200 mg/kg</td>
</tr>
</tbody>
</table>

**Respiratory or skin sensitization**
No data available

**Germ cell mutagenicity**
No data available

**Carcinogenicity**
No data available

**Reproductive toxicity**
No data available

**Specific target organ toxicity**
May cause drowsiness or dizziness. May cause respiratory irritation.

**Specific target organ toxicity**
No data available

**Aspiration hazard**
No data available

### SECTION 12: Ecological information

This product is not classified as environmentally hazardous; however, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

### SECTION 13: Disposal considerations

Collect and reclaim or dispose of in sealed containers at a licensed waste disposal site. Since emptied containers may retain product residue, follow label warnings even after container is emptied. This material and its container must be disposed of in a safe manner. Dispose of contents/container in accordance with local/regional/national/international regulations.

### SECTION 14: Transport information

**DOT**
- UN number: UN1993
- UN proper shipping name: Flammable liquids, N.O.S. (Isopropanol)
- Transport hazard class(es): Class 3, Subsidiary risk: Not listed, Label(s): 3, Packing group: II
- Special precautions for user: Read safety instructions, SDS, and emergency procedures before handling.
- Special provisions: IB2, T7, TP1, TP8, TP28
- Packaging exceptions: 150, Packaging, non-bulk: 202, Packaging, bulk: 242

**IATA**
- UN number: UN1993
- UN proper shipping name: Flammable liquids, N.O.S. (Isopropanol)
- Transport hazard class(es): Class 3, Subsidiary risk: Not listed, Packing group: II
- Environmental hazards: Not listed
- ERG code: 8L
- Special precautions for user: Read safety instructions, SDS, and emergency procedures before handling.
Other information
Passenger and cargo aircraft Allowed
Cargo aircraft only Allowed
IMDG
UN number UN1993
UN proper shipping name Flammable liquids, N.O.S. (Isopropanol)
Transport hazard class(es)
Class 3
Subsidiary risk Not listed
Packing group II
Environmental hazards
Marine pollutant Not listed
EmS F-E, S-E
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
This substance/mixture is not intended to be transported in bulk.

DOT

IATA; IMDG

SECTION 15: Regulatory information

U.S. federal regulations
This product is a “Hazardous Chemical” as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

CERCLA Hazardous Substance (40 CFR 302.4)
Isopropanol (CAS 67-63-0)

SARA 313 (TRI reporting)
Isopropanol (CAS 67-63-0)

U.S. state regulations
Massachusetts Right-to-Know Act
Isopropanol (CAS 67-63-0)
Triethanolamine (CAS 102-71-6)

New Jersey Worker and Community Right-to-Know Act
Isopropanol (CAS 67-63-0)
Triethanolamine (CAS 102-71-6)

Pennsylvania Worker and Community Right-to-Know Act
Isopropanol (CAS 67-63-0)
Triethanolamine (CAS 102-71-6)

Rhode Island Right-to-Know Act
Isopropanol (CAS 67-63-0)

SECTION 16: Other information

NFPA Rating
Health hazard 1
Fire hazard 3
Reactivity 1
Specific N/A

Disclaimer
The information in the Safety Data Sheet is offered for your consideration and guidance for safe handling, use, storage, transportation, disposal, and release of this product and is not considered a warranty or quality specification. Taylor Technologies, Inc., disclaims all expressed or implied warranties and assumes no responsibility for the accuracy of completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.

License granted to make unlimited paper copies for internal use only. This Safety Data Sheet may not be altered in any way without the expressed knowledge and permission of Taylor Technologies, Inc. The information contained in this sheet is based on lab experience and the most current data available.