SAFETY DATA SHEET

1. Identification

Product identifier: CIRCLESAFE® 800A
Other means of identification: None.
Recommended use: Non-destructive testing.
Recommended restrictions: None known.
Manufacturer / Importer / Supplier / Distributor information:
Company name: Circle Systems, Inc.
Address: 1210 Osborne Road
Saint Marys, GA 31558
Telephone: 9412-729-2735
E-mail: customerservice@circlesafe.com
Emergency phone number: Chem-tel 800-255-3924 (US & Canada); +1-813-248-0585 (International)

2. Hazard(s) identification

Physical hazards:
- Flammable aerosols: Category 1
- Gases under pressure: Compressed gas

Health hazards:
- Specific target organ toxicity, single exposure: Category 3 narcotic effects
- Aspiration hazard: Category 1

Environmental hazards:
- Hazardous due to the aquatic environment, acute hazard: Category 2

OSHA defined hazards: Not classified.
Label elements:
- Signal word: Danger
- Hazard statement: Extremely flammable aerosol. Contains gas under pressure; may explode if heated. May be fatal if swallowed and enters airways. May cause drowsiness or dizziness. Toxic to aquatic life.
- Precautionary statement:
  - Prevention: Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Avoid breathing mist or vapor. Use only outdoors or in a well-ventilated area. Avoid release to the environment.
  - Response: If swallowed: Immediately call a poison center/doctor. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell. Do NOT induce vomiting.
  - Storage: Store in a well-ventilated place. Keep container tightly closed. Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
  - Disposal: Dispose of contents/container in accordance with local/regional/national/international regulations. Not classified.

3. Composition/information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distillates (petroleum), Hydrotreated Light</td>
<td>64742-47-8</td>
<td>&gt;95</td>
</tr>
</tbody>
</table>
4. First-aid measures

**Inhalation**
If symptoms develop move victim to fresh air. Call a POISON CENTER or doctor/physician if you feel unwell.

**Skin contact**
Wash off with soap and water. Get medical attention if irritation develops and persists.

**Eye contact**
Rinse with water. Get medical attention if irritation develops and persists.

**Ingestion**
Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

**Most important symptoms/effects, acute and delayed**

**Indication of immediate medical attention and special treatment needed**
Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

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

5. Fire-fighting measures

**Suitable extinguishing media**
Alcohol resistant foam. Water fog. Dry chemical powder. Dry chemicals. Carbon dioxide (CO2).

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

**Specific hazards arising from the chemical**
Contents under pressure. Pressurized container may explode when exposed to heat or flame. During fire, gases hazardous to health may be formed.

**Special protective equipment and precautions for firefighters**
Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Fire-fighting equipment/instructions**
Cool containers exposed to heat with water spray and remove container, if no risk is involved. Containers should be cooled with water to prevent vapor pressure build up.

**Specific methods**
Move containers from fire area if you can do so without risk.

**General fire hazards**
Extremely flammable aerosol.

6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**
Keep unnecessary personnel away. Keep upwind. Keep out of low areas. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Local authorities should be advised if significant spillages cannot be contained.

**Methods and materials for containment and cleaning up**
Refer to attached safety data sheets and/or instructions for use. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. The product is immiscible with water and will spread on the water surface. Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Use water spray to reduce vapors or divert vapor cloud drift. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent entry into waterways, sewer, basements or confined areas. 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. For waste disposal, see section 13 of the SDS.

**Environmental precautions**
Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Inform appropriate managerial or supervisory personnel of all environmental releases.
7. Handling and storage

Precautions for safe handling
Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Ground and bond containers when transferring material. Avoid inhalation of aerosols. Use only in well-ventilated areas. Do not re-use empty containers. Avoid breathing mist or vapor. Avoid prolonged or repeated contact with skin.

Conditions for safe storage, including any incompatibilities
Level 1 Aerosol.

Do not handle or store near an open flame, heat or other sources of ignition. Do not puncture, incinerate or crush. Store away from incompatible materials (see Section 10 of the SDS). Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F.

8. Exposure controls/personal protection

Occupational exposure limits
US OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon dioxide (CAS 124-38-9)</td>
<td>PEL</td>
<td>5000 ppm</td>
</tr>
</tbody>
</table>

US ACGIH Threshold Limit Values

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon dioxide (CAS 124-38-9)</td>
<td>STEL</td>
<td>30000 ppm</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>5000 ppm</td>
</tr>
</tbody>
</table>

US NIOSH: Pocket Guide to Chemical Hazards

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon dioxide (CAS 124-38-9)</td>
<td>STEL</td>
<td>54000 mg/m3</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>30000 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9000 mg/m3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5000 ppm</td>
</tr>
<tr>
<td>Distillates (petroleum), Hydrotreated Light (CAS 64742-47-8)</td>
<td>TWA</td>
<td>100 mg/m3</td>
</tr>
</tbody>
</table>

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.

Individual protection measures, such as personal protective equipment

Eye/face protection
Chemical respirator with organic vapor cartridge and full facepiece.

Skin protection

Hand protection
Wear appropriate chemical resistant gloves.

Other
Wear suitable protective clothing.

Respiratory protection
Chemical respirator with organic vapor cartridge and full facepiece.

Thermal hazards
Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations
When using, do not 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.

9. Physical and chemical properties

Appearance
Physical state: Liquid.
<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>Aerosol</td>
</tr>
<tr>
<td>Color</td>
<td>Dark green</td>
</tr>
<tr>
<td>Odor</td>
<td>Slight petroleum odor.</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not available.</td>
</tr>
<tr>
<td>pH</td>
<td>Not available.</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>&lt;-68 °C, &lt;-90 °F</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>239-276 °C, 464-528 °F</td>
</tr>
<tr>
<td>Flash point</td>
<td>109 °C (229 °F)</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td></td>
</tr>
<tr>
<td>Flammability limit – lower (%)</td>
<td>1.2%</td>
</tr>
<tr>
<td>Flammability limit – upper (%)</td>
<td>6%</td>
</tr>
<tr>
<td>Explosive limit – lower (%)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Explosive limit – upper (%)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>0.02 mm Hg @ 20 °C (68 °F)</td>
</tr>
<tr>
<td>Vapor density</td>
<td>6.7</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>0.821 at 15.5 °C (60 °F)</td>
</tr>
<tr>
<td>Solubility (water)</td>
<td>Insoluble</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>216°C, 421°F</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available.</td>
</tr>
<tr>
<td>Other information</td>
<td></td>
</tr>
<tr>
<td>VOC (Weight %)</td>
<td>815-821 g/l</td>
</tr>
</tbody>
</table>

### 10. Stability and reactivity

- **Reactivity**: The product is stable and non-reactive under normal conditions of use, storage and transport.
- **Chemical stability**: Material is stable under normal conditions.
- **Possibility of hazardous reactions**: No dangerous reaction known under conditions of normal use.
- **Conditions to avoid**: Avoid temperatures exceeding the flash point. Contact with incompatible materials. Avoid temperatures above 122 °F (50 °C).
- **Incompatible materials**: Strong oxidizing agents.
- **Hazardous decomposition products**: No hazardous decomposition products are known.

### 11. Toxicological information

**Information on likely routes of exposure**

- **Ingestion**: Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia. Expected to be a low ingestion hazard.
- **Inhalation**: May cause drowsiness and dizziness. Headache. Nausea, vomiting. May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
- **Skin contact**: May cause skin irritation.
- **Eye contact**: May cause eye irritation.

**Symptoms related to the physical, chemical and toxicological characteristics**

- **Diarrhea**: May cause drowsiness and dizziness. Headache. Nausea, vomiting. Irritation of nose and throat. Aspiration may cause pulmonary edema and pneumonitis. Irritation of eyes and mucous membranes. Skin irritation. High concentrations: Inhalation of propellant may cause respiratory irritation, dizziness, nausea, or drowsiness.
Information on toxicological effects

Acute toxicity
May be fatal if swallowed and enters airways. Narcotic effects.

### Components

<table>
<thead>
<tr>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
</table>
| **Acute**
| Dermal | |
| LD50 | Rabbit | > 2000 mg/kg, bw |
| **Inhalation** | |
| LC50 | Rat | > 5.28 mg/l, 4 hours |
| **Oral** | |
| LD50 | Rat | > 5000 mg/kg, bw |

**Skin corrosion/irritation**
Prolonged skin contact may cause temporary irritation.

**Serious eye damage/eye irritation**
Direct contact with eyes may cause temporary irritation.

**Respiratory sensitization**
Not a respiratory sensitizer.

**Skin sensitization**
This product is not expected to cause skin sensitization.

**Germ cell mutagenicity**
No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity**
This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

**Reproductive toxicity**
Not expected to be a reproductive hazard.

**Specific target organ toxicity**

- **– single exposure**
  May cause drowsiness and dizziness.

- **– repeated exposure**
  Not classified.

**Aspiration hazard**
May be fatal if swallowed and enters airways.

**Chronic effects**
Prolonged inhalation may be harmful.

12. Ecological information

**Ecotoxicity**
Toxic to aquatic life.

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

**Bioaccumulative potential**
No data available.

**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. Contents under pressure. Do not puncture, incinerate or crush. Dispose of contents/container in accordance with local/regional/national/international regulations.

**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).

14. Transport information

**DOT**

- **UN number**
  UN1950

- **UN proper shipping name**
  Aerosols, Flammable, Ltd Qty

- **Transport hazard class(es)**
  Class 2.1
  Subsidiary risk -
  Label(s) 2.1, Ltd Qty

- **Packing group**
  Y203

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

- **Packaging exceptions**
  306
Packaging non-bulk: None.
Packaging bulk: None.

IATA
UN number: UN1950
UN proper shipping name: Aerosols, Flammable, Ltd Qty
Transport hazard class(es):
- Class: 2.1
- Subsidiary risk: -
- Label(s): 2.1, Ltd Qty
Packing group: Y203
Environmental hazards: No.
ERG Code: 10L
Special precautions for user: Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling.

IMDG
UN number: UN1950
UN proper shipping name: Aerosols, Flammable, Ltd Qty
Transport hazard class(es):
- Class: 2.1
- Subsidiary risk: -
- Label(s): 2.1, Ltd Qty
Packing group: Not applicable.
Environmental hazards: No.
Marine pollutant: Not available.
Special precautions for user: Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not established.

15. Regulatory information
US federal regulations:
This product is not a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt D):
Not regulated.

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4):
Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA):
Hazard Categories:
- Immediate Hazard – Yes
- Delayed Hazard – No
- Fire Hazard – Yes
- Pressure Hazard – Yes
- Reactivity Hazard – No

SARA 302 Extremely hazardous substance:

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS number</th>
<th>Reportable quantity</th>
<th>Threshold planning quantity</th>
<th>Threshold planning quantity, lower value</th>
<th>Threshold planning quantity, upper value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formaldehyde</td>
<td>50-00-0</td>
<td>100</td>
<td>500 lbs</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SARA 311/312 Hazardous chemical
SARA 313 (TRI reporting)
Not regulated.

Other federal regulations
Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
Not regulated.
Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
Not regulated.
Safe Drinking Water Act (SDWA)
Not regulated.

US state regulations
US Massachusetts RTK - Substance List
Carbon dioxide (CAS 124-38-9)
Distillates (petroleum), Hydrotreated Light (CAS 64742-47-8)

US New Jersey Worker and Community Right-to-Know Act
Carbon dioxide (CAS 124-38-9)
Distillates (petroleum), Hydrotreated Light (CAS 64742-47-8)

US Pennsylvania RTK - Hazardous Substances
Carbon dioxide (CAS 124-38-9)
Distillates (petroleum), Hydrotreated Light (CAS 64742-47-8)

US Rhode Island RTK
Not regulated.

US California Proposition 65
WARNING: This product does contain a chemical known to the State of California to cause cancer.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance
Formaldehyde (CAS 50-00-0)

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>Yes</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>Yes</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>Yes</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>Yes</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>Yes</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*"Yes" indicates this product complies 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, including date of preparation or last revision

| Issue date             | 13-November-2014 |
| Revision date          | November-2014    |
| Version #              | 30-January-2019  |
| HMIS® ratings          | 03               |
| Health:                | 2                |
| Flammability:          | 2                |
| Physical hazard:       | 0                |
NFPA Ratings

List of abbreviations
LD50: Lethal Dose, 50%.
PEL: Permissible exposure limit.
STEL: Short term exposure limit.
TWA: Time weighted average.

References
HSDB® - Hazardous Substances Data Bank

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