



## SAFETY DATA SHEET

### 1. Identification

<b>Product identifier</b>	<b>CIRCLESAFE® 800A</b>	
<b>Other means of identification</b>	None.	
<b>Recommended use</b>	Non-destructive testing.	
<b>Recommended restrictions</b>	None known.	
<b>Manufacturer / Importer / Supplier / Distributor information</b>		
<b>Company name</b>	Circle Systems, Inc.	
<b>Address</b>	479 West Lincoln Ave. P.O Box 1228 Hinckley, IL 60520	
<b>Telephone</b>	815-286-3271	
<b>E-mail</b>	customerservice@circlesafe.com	
<b>Emergency phone number</b>	Chem-tel	800-255-3924

### 2. Hazard(s) identification

<b>Physical hazards</b>	Flammable aerosols Gases under pressure	Category 1 Compressed gas
<b>Health hazards</b>	Specific target organ toxicity, single exposure Aspiration hazard	Category 3 narcotic effects Category 1
<b>Environmental hazards</b>	Hazardous due to the aquatic environment, acute hazard	Category 2
<b>OSHA defined hazards</b>	Not classified.	
<b>Label elements</b>		



<b>Signal word</b>	Danger	
<b>Hazard statement</b>	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.	
<b>Precautionary statement</b>		
<b>Prevention</b>	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.	
<b>Response</b>	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.	
<b>Storage</b>	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.	
<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.	
<b>Hazard(s) not otherwise classified (HNOC)</b>	None known.	

### 3. Composition/information on ingredients

#### Mixtures

Chemical name	CAS number	%
Distillates (petroleum), Hydrotreated Light	64742-47-8	>95

#### 4. First-aid measures

<b>Inhalation</b>	If symptoms develop move victim to fresh air. Call a POISON CENTER or doctor/physician if you feel unwell.
<b>Skin contact</b>	Wash off with soap and water. Get medical attention if irritation develops and persists.
<b>Eye contact</b>	Rinse with water. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	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.
<b>Most important symptoms/effects, acute and delayed</b>	Diarrhea. May cause drowsiness and dizziness. Headache. Nausea, vomiting. Irritation of eyes and mucous membranes. Irritation of nose and throat. Aspiration may cause pulmonary edema and pneumonitis. Skin irritation. High concentrations: Inhalation of propellant may cause respiratory irritation, dizziness, nausea, or drowsiness.
<b>Indication of immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
<b>General information</b>	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

#### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Alcohol resistant foam. Water fog. Dry chemical powder. Dry chemicals. Carbon dioxide (CO <sub>2</sub> ).
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>Specific hazards arising from the chemical</b>	Contents under pressure. Pressurized container may explode when exposed to heat or flame. During fire, gases hazardous to health may be formed.
<b>Special protective equipment and precautions for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Fire-fighting equipment/instructions</b>	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.
<b>Specific methods</b>	Move containers from fire area if you can do so without risk.
<b>General fire hazards</b>	Extremely flammable aerosol.

#### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	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.
<b>Methods and materials for containment and cleaning up</b>	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.
<b>Environmental precautions</b>	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 or until sprayed surface is thoroughly dry. 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. Protect from direct sunlight. 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)

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	PEL	5000 ppm

#### US. ACGIH Threshold Limit Values

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	STEL	30000 ppm
	TWA	5000 ppm

#### US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	STEL	54000 mg/m3
	TWA	30000 ppm
		9000 mg/m3
5000 ppm		
Distillates (petroleum), Hydrotreated Light (CAS 64742-47-8)	TWA	100 mg/m3

**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.

<b>Form</b>	Aerosol can.
<b>Color</b>	Dark green.
<b>Odor</b>	Slight petroleum odor.
<b>Odor threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/freezing point</b>	<-68°C, <-90.°F: ASTM D-2386
<b>Initial boiling point and boiling range</b>	239-276°C, 464-528°F, ASTM D-86
<b>Flash point</b>	109 °C (229 °F); ASTM D 93
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not available.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit – lower (%)</b>	1.2%
<b>Flammability limit – upper (%)</b>	6%
<b>Explosive limit – lower (%)</b>	Not available.
<b>Explosive limit – upper (%)</b>	Not available.
<b>Vapor pressure</b>	0.02 mm Hg @ 20 °C (68°F)
<b>Vapor density</b>	6.7
<b>Relative density</b>	0.821 at 15.5°C (60°C); ASTM D-4052
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Insoluble.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	216°C, 421°F; ASTM E 659
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Other information</b>	
<b>VOC (Weight %)</b>	815-821 g/l EPA Method 24

## 10. Stability and reactivity

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

## 11. Toxicological information

### Information on likely routes of exposure

<b>Ingestion</b>	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.
<b>Inhalation</b>	May cause drowsiness and dizziness. Headache. Nausea, vomiting. May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
<b>Skin contact</b>	May cause skin irritation.
<b>Eye contact</b>	May cause eye irritation.
<b>Symptoms related to the physical, chemical and toxicological characteristics</b>	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	Species	Test Results
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Distillates (petroleum), Hydrotreated Light (CAS 64742-47-8)

### Acute

#### Dermal

LD50	Rabbit	> 2000 mg/kg, bw
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#### Inhalation

LC50	Rat	> 5.28 mg/l, 4 hours
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#### Oral

LD50	Rat	> 5000 mg/kg, bw
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**Skin corrosion/irritation** Prolonged skin contact may cause temporary irritation.

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

### Respiratory or skin sensitization

**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.

### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

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

**Specific target organ toxicity – single exposure** May cause drowsiness and dizziness.

**Specific target organ toxicity – 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.

Components	Species	Test Results
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Distillates (petroleum), Hydrotreated Light (CAS 64742-47-8)

### Aquatic

#### Acute

Fish	LL50	Oncorhynchus mykiss	2 - 5 mg/l, 96 hours
	NOEC	Oncorhynchus mykiss	2 mg/l, 96 hours

**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** Contents under pressure. Do not puncture, incinerate or crush. Dispose in accordance with all applicable 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** Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

## 14. Transport information

### DOT

<b>UN number</b>	UN1950
<b>UN proper shipping name</b>	Aerosols, Flammable, Ltd Qty
<b>Transport hazard class(es)</b>	
<b>Class</b>	2.1
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	2.1, Ltd Qty
<b>Packing group</b>	Y203
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling.
<b>Packaging exceptions</b>	306
<b>Packaging non bulk</b>	None.
<b>Packaging bulk</b>	None.

### IATA

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

### IMDG

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

## 15. Regulatory information

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

### **TSCA Section 12(b) Export Notification (40 CFR 707, Subpt D)**

Not regulated.

### **OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

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  
 Not listed.

**SARA 302 Extremely hazardous substance****SARA 311/312 Hazardous chemical** Yes**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 contains 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**

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

\*A "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

<b>Issue date</b>	13-November-2014
<b>Revision date</b>	-
<b>Version #</b>	01
<b>Further information</b>	NFPA Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe  HMIS Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard
<b>HMIS® ratings</b>	Health: 2 Flammability: 2 Physical hazard: 0
<b>NFPA Ratings</b>	
<b>List of abbreviations</b>	LC50: Lethal Concentration, 50%. LD50: Lethal Dose, 50%. NOEC: No Observed Effect Concentration TWA: Time weighted average HSDB® - Hazardous Substances Data Bank
<b>References</b>	
<b>Disclaimer</b>	The information in this (M)SDS was obtained from sources which we believe are reliable but cannot guarantee. Additionally, your use of this information is beyond our control and may be beyond our knowledge. Therefore, the information is provided without any representation or warranty express or implied.