MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product name **Citrus Blast Graffiti Remover**

CAS # Mixture

Product use Cleaner

Manufacturer information

Graffiti Solutions Canada
552 St Thomas Rang
Embrun ON, K0A 1W0 CA
Phone: 613-838-5842
Phone: 866-906-9273
Fax: 613-838-5842

CANUTEC 613-996-6666

2. Hazards Identification

Emergency overview

DANGER -- CORROSIVE
May cause sensitization by skin contact.
Flammable liquid - may release vapors that form flammable mixtures at or above the flash point.
Containers may explode when heated.
Contains a potential mutagen.

Potential short term health effects

Routes of exposure Eye, Skin contact, Skin absorption, Inhalation, Ingestion.

Eyes Monoethanolamine is corrosive to the eyes.

Skin

Monoethanolamine is corrosive to rabbit skin.
d-Limonene has caused skin sensitization in animals.
This product may be harmful if it is absorbed through the skin.
May cause skin sensitization, an allergic reaction, which becomes evident on re-exposure to this material.

Inhalation Excessive intentional inhalation may cause respiratory tract irritation and central nervous system effects (headache, dizziness).

Ingestion

Harmful if swallowed.
Acute oral exposure of monoethanolamine has caused necrosis of the gastric and intestinal mucosa.

Target organs

Blood. Gastrointestinal tract. Eyes. Kidney. Liver. Respiratory system. Skin.
Based on published data, if contact is repeated and prolonged, monoethanolamine may cause liver and kidney damage. These effects have not been observed in humans.

Chronic effects

This product may be harmful if it is absorbed through the skin.
Prolonged or repeated exposure to dilutions can cause drying, defatting and dermatitis.

Signs and symptoms Symptoms may include redness, edema, drying, defatting and cracking of the skin. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

OSHA regulatory status This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

3. Composition/Information on Ingredients

Components	CAS #	Percent
Diacetone alcohol	123-42-2	30 - 60
Aryl alcohol	HMIRA# 8506	15 - 40
D-Limonene	5989-27-5	10 - 30
Monoethanolamine	141-43-5	1 - 5

Composition comments

This product has been granted a trade secret exemption.
The decision date associated with this trade exemption is August 9, 2013.

All concentrations are expressed as %wt/wt.

4. First Aid Measures

First aid procedures

Eye contact	Immediately flush the contaminated eye(s) with lukewarm gently flowing water for at least 30 minutes, while holding the eyelid(s) open. Take care not to rinse contaminated water into the unaffected eye (or face). Obtain medical attention immediately.
Skin contact	Under running water, remove contaminated clothing, shoes and leather goods. Continuously flush the contaminated area with lukewarm gently flowing water for at least 30 minutes. Obtain medical attention immediately.
Inhalation	If symptoms develop, move victim to fresh air. If symptoms persist, obtain medical attention. If breathing has stopped, trained personnel should administer CPR immediately.
Ingestion	Do not induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Never give anything by mouth if victim is unconscious, or is convulsing. Obtain medical attention.
Notes to physician	Symptoms may be delayed.
General advice	Keep away from sources of ignition. No smoking. Avoid contact with eyes and skin. Keep out of reach of children. Immediate medical attention is required. 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. If you feel unwell, seek medical advice (show the label where possible).

5. Fire Fighting Measures

Flammable properties	Flammable by WHMIS/OSHA criteria. Vapors may travel to a source of ignition and flash back. Containers may explode when heated.
Extinguishing media	
Suitable extinguishing media	Carbon dioxide. Alcohol foam. Water spray. Dry chemical. Water Fog. Polymer foam.
Unsuitable extinguishing media	Not available
Protection of firefighters	
Specific hazards arising from the chemical	Not available
Protective equipment and precautions for firefighters	Firefighters should wear full protective clothing including self contained breathing apparatus.
Hazardous combustion products	May include and are not limited to: Oxides of carbon. Oxides of nitrogen.
Explosion data	
Sensitivity to mechanical impact	Not available.
Sensitivity to static discharge	Not available.

6. Accidental Release Measures

Personal precautions	Keep unnecessary personnel away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak.
Environmental precautions	Do not discharge into lakes, streams, ponds or public waters. Advise authorities if product has penetrated drains, sewers or water pipes.
Methods for containment	Stop leak if you can do so without risk. Prevent entry into waterways, sewers, basements or confined areas. Use water spray to reduce vapors or divert vapor cloud drift.
Methods for cleaning up	Before attempting clean up, refer to hazard data given above. Small spills may be absorbed with non-reactive absorbent and placed in suitable, covered, labelled containers. Prevent large spills from entering sewers or waterways. Contact emergency services and supplier for advice. Never return spills to original containers for re-use. Large Spills: Wet down with water and dike for later disposal. After removal flush contaminated area thoroughly with water.

7. Handling and Storage

Handling

DANGER
CORROSIVE TO EYES AND SKIN. FLAMMABLE
May cause sensitization by skin contact.
Use good industrial hygiene practices in handling this material. Do not get this material in your eyes, on your skin, or on your clothing.
When transferring large amounts of the product, metal containers should be grounded; and avoid or eliminate ignition sources.

Storage

Keep out of reach of children. Do not store at temperatures above 120°F (49°C). Store in a closed container away from incompatible materials. Store in a well-ventilated, cool, dry place away from ignition sources and heat.

8. Exposure Controls/Personal Protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value
2-Pentanone, 4-hydroxy-4-methyl- (CAS 123-42-2)	TWA	50 ppm
Monoethanolamine (CAS 141-43-5)	STEL	6 ppm
	TWA	3 ppm

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

Components	Type	Value
2-Pentanone, 4-hydroxy-4-methyl- (CAS 123-42-2)	PEL	240 mg/m3
		50 ppm
Monoethanolamine (CAS 141-43-5)	PEL	6 mg/m3
		3 ppm

Exposure limits

Aryl alcohol has an AIHA WEEL exposure limit of 10ppm (8hr TWA).
Chemicals listed in section 3 that are not listed here do not have established limit values for ACGIH or OSHA PEL.

Engineering controls

Provide adequate ventilation. General ventilation normally adequate.

Personal protective equipment

Eye / face protection

Wear chemical goggles.

Hand protection

Rubber gloves. Confirm with a reputable supplier first.

Skin and body protection

As required by employer code.

Respiratory protection

Where exposure guideline levels may be exceeded, use an approved NIOSH respirator.

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink. Wash hands before breaks and immediately after handling the product.

9. Physical and Chemical Properties

Appearance	Yellow
Color	Yellow
Form	Liquid
Odor	Lemon
Odor threshold	Not available.
Physical state	Liquid.
pH	10.1
Freezing point	-77.8 °F (-61 °C)
Boiling point	147.2 °F (64 °C)
Pour point	Not available.
Evaporation rate	Not available
Flash point	82.40 °F (28.00 °C) Tag Closed Cup
Auto-ignition temperature	Not available

Flammability limits in air, upper, % by volume	Not available
Flammability limits in air, lower, % by volume	Not available
Vapor pressure	Not available
Vapor density	Not available
Specific gravity	Not available
Partition coefficient (n-octanol/water)	Not available
Solubility (water)	Not available
Relative density	Not available.
Viscosity	Not available.
VOC	Not available
Percent volatile	Not available

10. Stability and Reactivity

Reactivity	Reacts violently with acids.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Chemical stability	Stable under recommended storage conditions.
Conditions to avoid	Do not mix with other chemicals. Avoid high temperatures. This product may react with oxidizing agents.
Incompatible materials	Acids. Oxidizing agents.
Hazardous decomposition products	May include and are not limited to: Oxides of carbon. Oxides of nitrogen.

11. Toxicological Information

Toxicological data

Components	**Species**	**Test Results**
Aryl alcohol (CAS HMIRA# 8506)		
Acute		
Dermal		
LD50	Rabbit	2000 mg/kg
Inhalation		
LC50	Rat	1000 mg/l, 8 Hours
		8.8 mg/l/4h
Oral		
LD50	Mouse	1580 mg/kg
	Rabbit	1940 mg/kg
	Rat	1230 - 3100 mg/kg
Diacetone alcohol (CAS 123-42-2)		
Acute		
Dermal		
LD50	Rabbit	> 1875 mg/kg
		13500 mg/kg
		14.5 ml/kg
Oral		
LD50	Rat	3002 mg/kg
LC50		
Not available.		

Components	Species	Test Results
D-Limonene (CAS 5989-27-5)		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg
Oral		
LD50	Mouse	5600 mg/kg
	Rat	4400 mg/kg
LC50		
Not available.		
Monoethanolamine (CAS 141-43-5)		
Acute		
Dermal		
LD50	Rabbit	1018 mg/kg
Inhalation		
LC50	Mouse	1210 mg/m3, 4 Hours
Oral		
LD50	Guinea pig	620 mg/kg
	Mouse	700 mg/kg
	Rat	1720 mg/kg

Effects of acute exposure

Eye contact Monoethanolamine is corrosive to the eyes.

Skin contact Monoethanolamine is corrosive to rabbit skin.
d-Limonene has caused skin sensitization in animals.
This product may be harmful if it is absorbed through the skin.
May cause skin sensitization, an allergic reaction, which becomes evident on re-exposure to this material.

Inhalation Excessive intentional inhalation may cause respiratory tract irritation and central nervous system effects (headache, dizziness).

Ingestion Harmful if swallowed.
Acute oral exposure of monoethanolamine has caused necrosis of the gastric and intestinal mucosa.

Sensitization Aryl alcohol has caused skin sensitization in workers and animals.

Chronic effects This product may be harmful if it is absorbed through the skin. Based on published data, if contact is repeated and prolonged, monoethanolamine may cause liver and kidney damage. These effects have not been observed in humans.

Carcinogenicity Non-hazardous by WHMIS/OSHA criteria.

IARC Monographs. Overall Evaluation of Carcinogenicity

D-Limonene (CAS 5989-27-5) Volume 73 - 3 Not classifiable as to carcinogenicity to humans.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Ethanol (CAS 64-17-5) Carcinogenic.

Mutagenicity Aryl alcohol has caused an increase in chromosomal aberrations in Chinese hamster ovary cells.
Diacetone alcohol has caused in vitro mutagenic effects in rat liver cells.

Reproductive effects Non-hazardous by WHMIS/OSHA criteria.

Teratogenicity Non-hazardous by WHMIS/OSHA criteria.

Name of Toxicologically Synergistic Products Not available.

12. Ecological Information

Ecotoxicity Components of this product have been identified as having potential environmental concerns.

Ecotoxicological data

Components		Species	Test Results
Aryl alcohol (CAS HMIRA# 8506)			
Aquatic			
Fish	LC50	Bluegill (Lepomis macrochirus)	10 mg/l, 96 hours
Diacetone alcohol (CAS 123-42-2)			
Aquatic			
Fish	LC50	Bluegill (Lepomis macrochirus)	420 mg/l, 96 hours
D-Limonene (CAS 5989-27-5)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia pulex)	69.6 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	0.6 - 0.8 mg/l, 96 hours
Monoethanolamine (CAS 141-43-5)			
Algae	IC50	Algae	15 mg/L, 72 Hours
Aquatic			
Crustacea	EC50	Daphnia	65 mg/L, 48 Hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	114 - 196 mg/l, 96 hours

Persistence and degradability Not available.

Bioaccumulation / Accumulation Not available

Mobility in environmental media Not available.

Environmental effects Not available.

Aquatic toxicity Not available.

Partition coefficient

Aryl alcohol	1.1
Diacetone alcohol	-0.098
D-Limonene	4.232
Monoethanolamine	-1.31

Chemical fate information Not available.

13. Disposal Considerations

Disposal instructions Dispose in accordance with all applicable regulations.

Waste from residues / unused products Not available

Contaminated packaging Not available

14. Transport Information

U.S. Department of Transportation (DOT)

Basic shipping requirements:

UN number UN2924
Proper shipping name Flammable liquids, corrosive, n.o.s. (D-Limonene)
Hazard class 3
Packing group III
Special provisions B1, IB3, T7, TP1, TP28
Packaging exceptions 150
Packaging non bulk 203
Packaging bulk 242

Transportation of Dangerous Goods (TDG - Canada)

Basic shipping requirements:

UN number UN2924
Proper shipping name FLAMMABLE LIQUID, CORROSIVE, N.O.S. (D-Limonene)
Hazard class 3
Packing group III

Special provisions 16

DOT

TDG

15. Regulatory Information

Canadian federal regulations This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Canada NPRI VOCs with Additional Reporting Requirements: Mass reporting threshold/Identification Number

D-Limonene (CAS 5989-27-5)	1 tonnes

Canada WHMIS Ingredient Disclosure: Threshold limits

Aryl alcohol (CAS HMIRA# 8506)	1 %
Diacetone alcohol (CAS 123-42-2)	1 %
D-Limonene (CAS 5989-27-5)	1 %
Monoethanolamine (CAS 141-43-5)	1 %

WHMIS status Controlled

WHMIS classification Class B - Division 2 - Flammable Liquid, Class D - Division 2B, Class E - Corrosive Material

WHMIS labeling

Occupational Safety and Health Administration (OSHA)

29 CFR 1910.1200 hazardous chemical Yes

US federal regulations This product is 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.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

US CAA Section 111 Volatile Organic Compounds: Listed substance

Aryl alcohol (CAS HMIRA# 8506)	Listed.
Diacetone alcohol (CAS 123-42-2)	Listed.
Monoethanolamine (CAS 141-43-5)	Listed.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

CERCLA (Superfund) reportable quantity

None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

Clean Water Act (CWA) Hazardous substance

State regulations WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

US - California Hazardous Substances (Director's): Listed substance

Diacetone alcohol (CAS 123-42-2)	Listed.
Monoethanolamine (CAS 141-43-5)	Listed.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Ethanol (CAS 64-17-5)	Listed.

US - Minnesota Haz Subs: Listed substance

Aryl alcohol (CAS HMIRA# 8506)	Listed.
Diacetone alcohol (CAS 123-42-2)	Listed.
Monoethanolamine (CAS 141-43-5)	Listed.

US - New Jersey RTK - Substances: Listed substance

Diacetone alcohol (CAS 123-42-2)	Listed.
D-Limonene (CAS 5989-27-5)	Listed.
Monoethanolamine (CAS 141-43-5)	Listed.

US - Texas Effects Screening Levels: Listed substance

Aryl alcohol (CAS HMIRA# 8506)	Listed.
Diacetone alcohol (CAS 123-42-2)	Listed.
D-Limonene (CAS 5989-27-5)	Listed.
Monoethanolamine (CAS 141-43-5)	Listed.

US. Massachusetts RTK - Substance List

Aryl alcohol (CAS HMIRA# 8506)	Listed.
Diacetone alcohol (CAS 123-42-2)	Listed.
Monoethanolamine (CAS 141-43-5)	Listed.

US. Pennsylvania RTK - Hazardous Substances

Aryl alcohol (CAS HMIRA# 8506)	Listed.
Diacetone alcohol (CAS 123-42-2)	Listed.
Monoethanolamine (CAS 141-43-5)	Listed.

US. Rhode Island RTK

Not regulated.

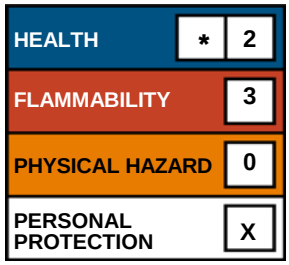
Inventory status

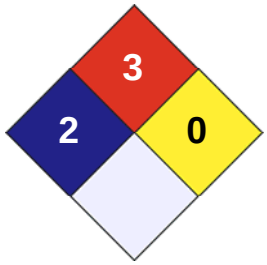
Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other Information

LEGEND	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0





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Other information	For an updated MSDS, please contact the supplier/manufacturer listed on the first page of the document. This MSDS conforms to the ANSI Z400.1/Z129.1-2010 Standard.