

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
Product name : **Citrus Asphalt Cleaner**
Product code : 5769

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Natural-Based Cleaner

1.3. Details of the supplier of the safety data sheet

Flo-Kem
19402 Susana Rd.
Rancho Dominguez, CA 90221 - USA
T 310-632-7124 - F 310-631-7496
<http://www.flo-kem.com>

1.4. Emergency telephone number

Emergency number : CHEMTEL: 800-255-3924

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

Flam. Liq. 3 H226
Skin Irrit. 2 H315
Eye Dam. 1 H318
Skin Sens. 1 H317
Asp. Tox. 1 H304

Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms



Signal word

: Danger

Hazard statements

: Flammable liquid and vapor.
May be fatal if swallowed and enters airways.
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye damage.

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Precautionary statements : Keep away from heat, hot surfaces, open flames, sparks. - No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical, lighting, ventilating equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Avoid breathing vapors.
Wash hands and forearms thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.
Wear eye protection, neoprene gloves, protective clothing.
If swallowed: Immediately call a doctor, a POISON CENTER.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
Wash with plenty of soap and water.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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Immediately call a POISON CENTER or doctor/physician.
Do NOT induce vomiting.
If skin irritation or rash occurs: Get medical advice/attention.
Take off contaminated clothing and wash before reuse.
In case of fire: Use alcohol resistant foam, BC-powder, carbon dioxide (CO₂), dry chemical, sand to extinguish.
Store in a well-ventilated place. Keep cool.
Store locked up.
Dispose of contents/container in accordance with Local, State, and Federal regulations.

2.3. Hazard not otherwise classified (HNOC)

No additional information available

2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

(NOTE: If component displays the * (asterisk) symbol, the following statement applies.)

*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret Full text of H-phrases: see section 16

3.2. Mixture

Name	Product identifier	%	Classification (GHS-US)
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(+)-limonene	(CAS No) 5989-27-5	75 - 80	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1, H317 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
alcohols, C9-11, ethoxylated	(CAS No) 68439-46-3	5 - 10	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318

(NOTE: If component displays the * (asterisk) symbol, the following statement applies.)

*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, seek medical advice.
First-aid measures after skin contact	: If skin irritation or rash occurs: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation persists, get medical attention.
First-aid measures after eye contact	: 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 or doctor/physician.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries	: Not expected to present a significant hazard under anticipated conditions of normal use. If you feel unwell, seek medical advice.
Symptoms/injuries after skin contact	: Causes skin irritation. May cause an allergic skin reaction.
Symptoms/injuries after eye contact	: Causes serious eye damage.
Symptoms/injuries after ingestion	: May be fatal if swallowed and enters airways. FOLLOWING SYMPTOMS MAY APPEAR LATER: Gastrointestinal complaints. Irritation of the gastric/intestinal mucosa. Irritation of the oral mucous membranes.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1.

Extinguishing media

Suitable extinguishing media	: Alcohol-resistant foam. BC powder. Carbon dioxide. Dry chemical powder. Sand/earth.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: Flammable liquid and vapor.
Explosion hazard	: May form flammable/explosive vapor-air mixture.
Reactivity	: Reacts with (strong) oxidizers and with (some) acids.

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5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Isolate from fire, if possible, without unnecessary risk. Use special care to avoid static electric charges.

6.1.1. For non-emergency personnel

- Protective equipment : Protective goggles.
Protective clothing.
Respiratory protection.
Neoprene gloves.
- Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

- For containment : Contain released substance, pump into suitable containers. Plug the leak, cut off the supply. Dilute combustible/toxic gases/vapors with water spray.
- Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials. Wash down leftovers with plenty of water. Wash clothing and equipment after handling.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Additional hazards when processed : Handle empty containers with care because residual vapors are flammable.
- Precautions for safe handling : Do not get in eyes, on skin, or on clothing. Do not breathe vapors. Ensure good ventilation of the work station. Flammable vapors may accumulate in the container. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Observe normal hygiene standards. Provide good ventilation in process area to prevent formation of vapor. Take precautions against electrostatic charges. Use only outdoors or in a well-ventilated area. Use personal protective equipment as required.

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Hygiene measures : Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse. Wash hands and forearms thoroughly after handling. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Provide local exhaust or general room ventilation. Take precautionary measures against static discharge. Comply with applicable regulations.

Incompatible products : Strong acids. Oxidizing agent.

Storage area : Store in a cool, dry well-ventilated area. Keep container tightly closed when not in use.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No data available

8.2. Exposure controls

Personal protective equipment : Avoid all unnecessary exposure.

Hand protection : Wear neoprene gloves.

Eye protection : Chemical goggles or safety glasses.

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. In case of insufficient ventilation, wear suitable respiratory equipment.

Other information : When using, do not eat, drink or smoke.

Appropriate engineering controls : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Color : Clear yellow

Odor : Citrus

Odor threshold : No data available

pH : No data available

Melting point : No data available

Freezing point : No data available

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Boiling point	: No data available
Flash point	: > 110 °F
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Explosive limits	: No data available
Vapor pressure	: No data available
Vapor density	: No data available
Specific Gravity @ 77° F	: 0.858 - 0.878
Solubility	: No data available
Partition Coefficient n-Octanol-Water	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	: < 5 cP

9.2. Other information

VOC content : < 700 g/l CARB VOC

SECTION 10: Stability and reactivity

10.1. Reactivity

Reacts with (strong) oxidizers and with (some) acids.

10.2. Chemical stability

Flammable liquid and vapor. May form flammable/explosive vapor-air mixture.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Extremely high or low temperatures. Open flame. Heat. Sparks.

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10.5.

Incompatible materials

Strong acids. Oxidizers. Halogens.

10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide. May release flammable gases.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

alcohols, C9-11, ethoxylated (68439-46-3)	
LD50 oral rat	1378 mg/kg (Rat)
LD50 dermal rabbit	> 2000 mg/kg (Rabbit)
ATE US (oral)	1378.000 mg/kg body weight

(+)-limonene (5989-27-5)	
LD50 oral rat	4400 mg/kg body weight (Rat; OECD 423: Acute Oral Toxicity – Acute Toxic Class Method; Literature study; > 2000 mg/kg bodyweight; Rat; Read-across)
LD50 dermal rabbit	> 5000 mg/kg body weight (Rabbit; Weight of evidence; Equivalent or similar to OECD 402)
ATE US (oral)	4400.000 mg/kg body weight

Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Causes serious eye damage.
Respiratory or skin sensitization : May cause an allergic skin reaction.
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

(+)-limonene (5989-27-5)	
IARC group	3 - Not Classifiable

: Not classified

Reproductive toxicity
Specific target organ toxicity (single exposure) : Not classified

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: Not classified

Specific target organ toxicity (repeated exposure)

: May be fatal if swallowed and enters airways.

Aspiration hazard

Potential Adverse human health effects and symptoms

: Based on available data, the classification criteria are not met

Symptoms/injuries after skin contact

: Causes skin irritation. May cause an allergic skin reaction.

Symptoms/injuries after eye contact

: Causes serious eye damage.

Symptoms/injuries after ingestion

: May be fatal if swallowed and enters airways. FOLLOWING SYMPTOMS MAY APPEAR LATER: Gastrointestinal complaints. Irritation of the gastric/intestinal mucosa. Irritation of the oral mucous membranes.

SECTION 12: Ecological information

12.1. Toxicity

alcohols, C9-11, ethoxylated (68439-46-3)	
LC50 fish 1	5.7 mg/l (Rainbow trout)
EC50 Daphnia 1	2.5 mg/l

(+)-limonene (5989-27-5)	
LC50 fish 1	720 µg/l (96 h; Pimephales promelas; Lethal)
EC50 Daphnia 1	0.36 mg/l (48 h; Daphnia magna; GLP)
LC50 fish 2	702 µg/l (96 h; Pimephales promelas)
Threshold limit algae 1	150 mg/l (72 h; Desmodesmus subspicatus; GLP)
Threshold limit algae 2	2.62 mg/l (72 h; Desmodesmus subspicatus)

12.2. Persistence and degradability

alcohols, C9-11, ethoxylated (68439-46-3)	
Persistence and degradability	Readily biodegradable in water.

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(+)-limonene (5989-27-5)	
Persistence and degradability	Readily biodegradable in water. Forming sediments in water. Adsorbs into the soil.
ThOD	3.29 g O ₂ /g substance

12.3. Bioaccumulative potential

alcohols, C9-11, ethoxylated (68439-46-3)	
Bioaccumulative potential	No bioaccumulation data available.

(+)-limonene (5989-27-5)	
BCF fish 1	864.8 - 1022 (Pisces; Fresh weight)
Log Pow	4.38 (Experimental value; OECD 117: Partition Coefficient (n-octanol/water), HPLC method; 37 °C)
Bioaccumulative potential	Potential for bioaccumulation ($4 \geq \text{Log Kow} \leq 5$).

12.4. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose of contents/container in accordance with Local, State, and Federal regulations.
Additional information : Handle empty containers with care because residual vapors are flammable.
Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

14.1. UN Number

UN-No.(DOT) : 1993
Other information : Under 49 CFR 173.150(f)(1): This product may be reclassified as a combustible liquid. DOT requirements for packaging, labeling, and shipping do not apply to combustible liquids in NONBULK packaging unless the combustible liquid is a hazardous substance, a hazardous waste, or a marine pollutant. This provision does not apply to transportation by vessel or aircraft, except where other means of transportation is impracticable.

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14.2. UN proper shipping name

DOT Proper Shipping Name : UN1993, Flammable Liquids, N.O.S. (D-Limonene), 3, PGIII
Hazard labels (DOT) : 3 - Flammable liquid



SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are listed on the Toxic Substances Control Act (TSCA) inventory

This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

alcohols, C9-11, ethoxylated (68439-46-3)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard
(+)-limonene (5989-27-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard

15.2. International regulations

CANADA

EU-Regulations

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Classification according to Directive 67/548/EEC or 1999/45/EC Not classified

15.2.2. National regulations

15.3. US State regulations

California Proposition 65 - This product contains, or may contain, trace quantities of a substance(s) known to the state of California to cause cancer and/or reproductive toxicity

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Prop 65 Comments :4-o-tolylazo-o-toluidine (CAS#97-56-3): < 4 ppm

SECTION 16: Other information

Abbreviations Legend:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Asp. Tox. 1	Aspiration hazard Category 1
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Flam. Liq. 3	Flammable liquids Category 3
Skin Irrit. 2	Skin corrosion/irritation Category 2
Skin Sens. 1	Skin sensitization Category 1
H226	Flammable liquid and vapor
H302	Harmful if swallowed
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

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Revision date: 11/13/2014

Supersedes: 08/09/2012

Version: 1.0