

CHEMTRONICS®

Technical Data Sheet

TDS # 2289

Max-Kleen™ Citrus

The citrus-based extra-strength, heavy-duty degreaser

PRODUCT DESCRIPTION

Max-Kleen™ Citrus is ideal for removal of all types of soils including oxidized grease, sludge, wax, tar and oil. The moderate evaporation rate increases the cleaning power for hard-to-remove soils. The low surface tension provides for superior wetting to clean in even the tightest spots. Max-Kleen™ Citrus is registered with the NSF as a C1 cleaner for use in food processing facilities.

- Citrus-based formula with moderate evaporation rate
- Quickly removes all types of tough soils including oxidized oil and grease
- Safe for use on most metals and plastics
- Does not contain chlorinated solvents
- Flashpoint greater than 100° F
- Non-corrosive and nonconductive
- Low Toxicity
- Leaves no residue

TYPICAL APPLICATIONS

Max-Kleen™ Citrus can be used for all repair, maintenance, and manufacturing applications including:

- Removes grease, oil and lubricants
- Ideal for metal parts cleaning and tools
- All repair and maintenance cleaning
- Cleans contacts, relays, switches, circuit breakers and test probes
- Cleans electric motors and gasoline engines
- Removes tough soils from gears and pulleys
- Use for maintenance of air compressors
- Cleans inks and residues from printing presses
- Effective adhesive residue remover

TYPICAL PRODUCT DATA AND PHYSICAL PROPERTIES

Boiling Point	300° F Initial
Evaporation Rate (butyl acetate=1)	<1
Flash Point (TCC)	105° F
Specific Gravity	0.78
Vapor Pressure @68°F	2.0 mmHg
Appearance	Clear, colorless liquid
Odor	Mild Citrus
Solubility in Water	Negligible
Dielectric Breakdown (ASTM D-877)	62 kV
Kauri-Butanol (KB) Number	45
Shelflife	5 years
NSF-Registered C1	#139462 (aerosol) #139463 (bulk)

COMPATIBILITY

Max-Kleen™ Citrus is compatible with most metals and plastics. As with any solvent, compatibility with substrate should be determined on a non-critical area prior to use.

<u>Material</u>	<u>Compatibility</u>
ABS	Good
Buna-N	Good
EPDM	Fair
Graphite	Excellent
HDPE	Excellent
PVDF	Excellent
LDPE	Good
Lexan™	Good
Neoprene	Good
Noryl®	Excellent
Nylon™ 66	Excellent
Polycarbonate	Good
Polypropylene	Good
Polystyrene	Fair
PVC	Fair
Silicone Rubber	Fair
Teflon™	Excellent
Viton™	Excellent

AVAILABILITY

ES2289	15 oz aerosol
ES189	1 gallon liquid
ES589	5 gallon liquid
ES5589	55 gallon liquid

NOTE:

This information is believed to be accurate. It is intended for professional end users having the skills to evaluate and use the data properly. ITW CHEMTRONICS® does not guarantee the accuracy of the data and assumes no liability in connection with damages incurred while using it.

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USAGE INSTRUCTIONS

Read MSDS carefully prior to use.

Spray 4-6 inches from surface to clean. Wash parts from top to bottom, allowing the liquid to flush away dirt and dissolved grease. For precise application use attached extension tube.

For wipe applications, wet a Controlwipes™ Wipe with Max-Kleen™ Citrus and wipe away soils.

When used to clean food equipment that will be returned to a food processing area, wash Max-Kleen™ Citrus off the equipment and then rinse well with potable water.

SAFETY & ENVIRONMENTAL DATA

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CFC	0.0%	VOC	100%
HCFC-225	0.0%	HFC	0.0%
HCFC-141b	0.0%	nPB	0.0%

SECTION 1: CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Information: 800-TECH-401

Product Identification

Max-Kleen™ Citrus liquid

Product Code: ES189, ES589, ES5589

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Wt. % Range
Hydrocarbons	68551-17-7 / 8052-41-3	50.0-90.0
d-Limonene	5989-27-5	20.0-50.0

SECTION 3: HAZARD IDENTIFICATION

Emergency Overview: Clear, colorless liquid with a mild citrus odor. This product is combustible. Liquid will irritate eyes and skin under repeated or prolonged exposure. Breathing high concentrations of product may produce drowsiness and a headache.

Potential Health Effects:

Eyes: Liquid and vapors of this product are irritating and can cause pain, tearing, reddening and swelling accompanied by a stinging sensation.

Skin: Contact causes skin irritation. Symptoms may include redness and burning. May cause skin sensitization.

Ingestion: Harmful if swallowed. Large amounts may be irritating to the mouth, throat and stomach. May cause vomiting.

Inhalation: Harmful if inhaled. High concentrations in immediate area can displace oxygen and cause dizziness, unconsciousness and even death, with longer exposure. Keep people away from such vapors without self-contained breathing apparatus.

Preexisting Medical Conditions Aggravated by Exposure: Skin, eyes, lungs, central nervous system

SECTION 4: FIRST AID MEASURES

Eyes: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Have eyes examined and tested by medical personnel if irritation develops or persists.

Skin: Wash skin with soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persists. Wash clothing separately before reuse.

Ingestion: If swallowed, do not induce vomiting. Give lukewarm water to victim (pint) if victim is conscious and alert. Keep head below knees to minimize chance of aspirating material into the lungs. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

SECTION 5: FIRE FIGHTING MEASURES

Flash Point: 122 °F (41C)

LEL/UEL: 0.7 / 6.0 (% by volume in air)

Extinguishing Media: Use alcohol foam, carbon dioxide or water spray when fighting fires involving this material.

Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus (pressure demand, OSHA/NIOSH approved or equivalent) and full protective gear.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Large Spills: Shut off leak if possible and safe to do so. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container for proper disposal. Do not flush to sewer. Avoid runoff into storm sewers and ditches which lead to waterways.

Small Spills: Absorb spill with inert material (i.e. dry sand or earth), then place in a chemical waste container for proper disposal.

SECTION 7: HANDLING AND STORAGE

Avoid prolonged or repeated contact with skin, eyes or clothing. Wash hands before eating. Use with adequate ventilation. Avoid breathing product vapor. Do not reuse this container. Store in a cool dry place, away from heat, sparks or flames. Keep container tightly closed when not in use. Do not store in direct sunlight.

KEEP OUT OF REACH OF CHILDREN.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines:

CHEMICAL NAME	ACGIH TLV	OSHA PEL	ACGIH STEL	OTHER
Hydrocarbons	100 ppm	500 ppm	200 ppm	
d-limonene	NA	NA	NA	30 ppm*

*Occupational Exposure Limit

Work/Hygienic Practices: Good general ventilation should be sufficient to control airborne levels. Local exhaust ventilation may be necessary to control any air contaminants to within their TLVs during the use of this product. If vapor concentration exceeds TLV, use NIOSH approved organic vapor cartridge respirator. Wear safety glasses with side shields (or goggles) and rubber or other chemically resistant gloves when handling this material.

NFPA and HMIS Codes:

	NFPA	HMIS
Health	1	1
Flammability	2	2
Reactivity	0	0
Personal Protection	-	B

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Clear, colorless liquid

Odor: Mild citrus

pH: NA

Vapor Pressure: 2.0 mmHg @ 20C (approx.)

Vapor Density: >1 (Air = 1)

Boiling Point: 300°F (149C)

Solubility in Water: Negligible

Specific Gravity: 0.78 @75°F

Evaporation Rate: <1 (Butyl acetate=1)

Viscosity: >1 (Water =1)

Percent Volatile: 100 %

SECTION 10: STABILITY AND REACTIVITY

Stability: This product is stable.

Conditions to Avoid: Do not spray near open flames, red hot surfaces or other sources of ignition.

Incompatibility: Do not mix powdered alkali and alkaline earth metals or strong oxidizing agents.

Products of Decomposition: Thermal decomposition may release carbon monoxide, carbon dioxide and incompletely burned hydrocarbons.

Hazardous Polymerization: Will not occur.

Conditions to avoid: NA

SECTION 11: TOXICOLOGICAL INFORMATION

Inhalation:

Not available

Skin:

d-limonene LD50 (rabbit)>5000 mg/kg

Ingestion:

d-limonene

LD50 (rat) >5000 mg/kg

Eye:

Mixture

Slight irritation

Cancer Information: No ingredients listed as human carcinogens by NTP or IARC.

Reproductive effects: none

Teratogenic effects: none

Mutagenic effects: none

SECTION 12: ECOLOGICAL INFORMATION**Environmental Impact Information**

Avoid runoff into storm sewers and ditches which lead to waterways. Water runoff can cause environmental damage.

REPORTING

US regulations require reporting spills of this material that could reach any surface waters. The toll free number for the US Coast Guard National Response Center is:

1-800-424-8802

SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of in accordance with all federal, state and local regulations.

SECTION 14: TRANSPORTATION INFORMATION

Proper Shipping Name	UN Number	Hazard Class	Sub. Risk	Pkg. Group	Hazard Label	Pkg. Instr./Auth.	Max. Quantity
<u>Air:</u> Flammable liquids, n.o.s. (d-limonene solution)	UN 1993	3	NA	III	Flammable Liquid	309	60L
<u>Ground:</u> ES189 Consumer Commodity	NA	NA	NA	NA	ORM-D	Pkg. Auth. 173.150 173.153	
ES589 & ES5589 Combustible liquids, n.o.s. (d-limonene solution)	NA1993	NA	NA	III	Combustible Liquid n.o.s.	Pkg. Auth. 173.150	

SECTION 15: REGULATORY INFORMATION**SECTION 313 SUPPLIER NOTIFICATION**

This product contains no toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372).

This information should be included on all MSDSs copied and distributed for this material.

TOXIC SUBSTANCES CONTROL ACT (TSCA). All ingredients of this product are listed on the TSCA Inventory.

WHMIS: Class B3; Class D2B

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

SECTION 16: OTHER INFORMATION

Normal ventilation for standard manufacturing practices is usually adequate. Local exhaust should be used when large amounts are released.

To the best of our knowledge, the information contained herein is accurate. However, all materials may present unknown hazards and should be used with caution. In particular, improper use of our products and their inappropriate combination with other products and substances may produce harmful results which cannot be anticipated. Final determination of the suitability of any material is the sole responsibility of the user. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that may exist.