

### 1. PRODUCT IDENTIFICATION AND USE

Product Name: NuGenTec CitrusKleen 100      Product Number: 791TZ  
CAS Number: 68647-72-3      Synonyms: CitraSolv (old Name)

Company Identification: NuGeneration Technologies, LLC    [www.nugentec.com](http://www.nugentec.com)  
100 Professional Center Drive suite 101  
Rohnert Park, CA 94928 USA  
(707) 820-4080 (For product information)  
1-800-424-9300 or 1-202-483-7616 (CHEMTREC: For emergencies)

SPECIAL NOTES: This product contains <0.01% water.

### 2. HAZARDOUS INGREDIENTS

<u>Chemical Name</u>	<u>Amount</u>	<u>CAS Number</u>
D-LIMONENE	100 %	68647-72-3

EXPOSURE GUIDELINES: No Information Available.

### 3. PHYSICAL DATA

FORM	Liquid
COLOR	Pale Yellow
ODOR	Mild Orange aroma
BOILING POINT	176 F
VAPOR PRESSURE	1 mm Hg @ 60 F
VAPOR DENSITY	4.73 (Air = 1)
SOLUBILITY IN WATER	NIL
SPECIFIC GRAVITY	0.844 (Water = 1)
BULK DENSITY	7.04
MELTING/FREEZING POINT	N/A F
PH	N/A
% VOLATILES	< 90 %
EVAPORATION RATE	<1 (Ether=1)
VOLATILE ORGANIC COMPOUNDS (VOC)	< 850 G/L
REFRACTIVE INDEX	1.472 @ 20 C

#### INHALATION:

Vapors and/or aerosols may be irritating to eyes and respiratory tract.

INGESTION: Ingestion is not considered a potential route of exposure.

#### SIGNS AND SYMPTOMS OF EXPOSURE:

If exposed areas are flushed promptly and thoroughly with SOAP & water, there should be little or no harm.

REPRODUCTIVE HAZARDS: No reproductive hazards.

CARCINOGENICITY INFORMATION: No known cancer hazards.

### 4. FIRE AND EXPLOSION DATA

FLAMMABLE PROPERTIES: TCC Flash Point: 79.40 C (175.0 F)

Autoignition Temperature: >500 F

FLAMMABLE LIMITS IN AIR: LEL: unknown UEL: unknown

EXTINGUISHING MEDIA: Carbon dioxide, foam, water or dry powder.

#### FIRE FIGHTING INSTRUCTIONS:

Contain runoff water. Contaminated extinguishing water must be disposed of in accordance with applicable regulations. As in any fire, wear self-contained breathing apparatus pressure-demand MSHA/NIOSH (approved or equivalent) and full protective gear. Avoid breathing smoke, fumes, and decomposition products. Evacuate non-emergency personnel to a safe area. Water runoff can cause environmental damage.

COMBUSTION PRODUCTS: Dense smoke may be generated while burning. Carbon Monoxide, carbon

dioxide, and other oxides may be generated as products of combustion.

## 5. REACTIVITY DATA

STABILITY: Stable.

POLYMERIZATION: Hazardous polymerization will not occur.

INCOMPATIBILITY WITH OTHER MATERIALS: Avoid contact with strong oxidizing agents.

DECOMPOSITION: Decomposition may produce fumes, smoke, oxides of carbon and hydrocarbons.

Decomposition will not occur if handled and stored properly.

CONDITIONS TO AVOID: This material is safe under normal storage and handling conditions.

COMBUSTION PRODUCTS: Dense smoke may be generated while burning. Carbon Monoxide, carbon dioxide, and other oxides may be generated as products of combustion.

## 6. TOXICOLOGICAL PROPERTIES

EYE: May cause irritation.

SKIN: Not expected to be a skin irritant.

INHALATION: Vapors and/or aerosols may be irritating to eyes and respiratory tract.

INGESTION: Ingestion is not considered a potential route of exposure.

SIGNS AND SYMPTOMS OF EXPOSURE: If exposed areas are flushed promptly and thoroughly with SOAP & water, there should be little or no harm.

REPRODUCTIVE HAZARDS: No reproductive hazards.

CARCINOGENICITY INFORMATION: No known cancer hazards.

EYE EFFECTS: Contact may cause eye irritation.

SKIN EFFECTS: Contact may cause skin irritation.

ACUTE ORAL EFFECTS: No known hazards in normal industrial use.

ACUTE INHALATION EFFECTS: This product has a low vapor pressure and is not expected to present an inhalation hazard at ambient conditions. Caution should be taken to prevent aerosolization or misting of this product. The permissible exposure limit (PEL) and Threshold Limit value (TLV) for this product as oil mist is 5 mg/m<sup>3</sup>. Exposures below 5 mg/m<sup>3</sup> appear to be without significant health risk. The short term exposure limit for this product as an oil mist is 10 mg/m<sup>3</sup>.

## 7. PREVENTATIVE MEASURES

### RECOMMENDED STORAGE TEMPERATURE

Minimum: 4.4 C (39.9 F) Maximum: 37.8 C (100.0 F)

### HANDLING (PERSONNEL):

Avoid contact with eyes, skin, and clothing. Empty drums should be completely drained (triple rinsed), properly bunged, and promptly returned to a drum reconditioner, or properly disposed of. Wash hands thoroughly after handling. Wash contaminated clothing before reuse.

### HANDLING (PHYSICAL ASPECTS):

Eliminate all sources of ignition - heat, sparks, flame, electricity, impact and friction. Keep container closed to avoid contamination. Avoid contact with strong oxidizing agents. Avoid extreme temperatures.

STORAGE PRECAUTIONS: Store in a cool dry place. Do not stack drums more than three pallets high. Store in a tightly closed container.

MISCELLANEOUS: Do not stack over three pallets high.

### ENGINEERING CONTROLS:

Good general ventilation should be sufficient to control airborne levels. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

### EYE / FACE PROTECTION REQUIREMENTS:

When splashing of the material may occur, chemical goggles and a face shield are recommended. This material does not have established exposure limits. A NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits.

### SKIN PROTECTION REQUIREMENTS:

Wear protective gloves to minimize skin contact. Nitrile rubber and PVC are suitable protective materials; Neoprene is recommended. Wash hands thoroughly after handling.

### RESPIRATORY PROTECTION REQUIREMENTS:

Under normal use conditions, with adequate ventilation, no special handling equipment is required. When there is potential for airborne exposures in excess of applicable limits, wear NIOSH/MSHA approved

respiratory protection.

MISCELLANEOUS: Where an apron and protective clothing.

SAFEGUARDS (PERSONNEL):

Eliminate all sources of ignition - heat, sparks, flame, electricity, impact and friction. Evacuate non-emergency personnel to a safe area. Review Fire Fighting Measures and Handling (Personnel) Sections before proceeding with clean-up. Wear appropriate personal protective equipment.

INITIAL CONTAINMENT: Floor may become slippery. Contain spilled material. Absorb spills with inert material. Wash area to prevent slipping. Treat or dispose of waste material in accordance with all local, state/provincial, and national requirements.

LARGE SPILLS PROCEDURE:

Forms smooth, slippery surfaces on floors, posing an accident risk. Clean up spills immediately, observing precautions in Protective Equipment section. Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. After removal, flush contaminated area thoroughly with soap and water. Dispose of in an approved sanitary landfill. Treat or dispose of waste material in accordance with all local, state/provincial, and national requirements. May be a regulated waste. Materials should be recycled if possible.

SMALL SPILLS PROCEDURE: Floor may become slippery. Absorb spills with inert material. Avoid disposal into waste water treatment facilities. After cleaning spill with absorbent material wash area with soap and water. Treat or dispose of waste material in accordance with all local, state/provincial, and national requirements.

WASTE DISPOSAL:

Uncleaned empty containers should be disposed of in the same manner as the contents. Recycling of this material is recommended if possible, otherwise incinerate or bury in an approved sanitary landfill. Treat or dispose of waste material in accordance with all local, state/provincial, and national requirements. For additional waste disposal information contact your local NuGenTec representative at (888) 99-NuGen or (209) 234-5930.

CONTAMINATED MATERIALS: Wash contaminated clothing before reuse.

CONTAINER DISPOSAL: Clean out containers prior to disposal. Misuse of containers may be hazardous. Empty containers can be dangerous if used to store toxic, flammable, or reactive materials. Cutting or welding containers might cause fire, explosion, or toxic fumes from residues. Do not pressurize or expose to open flames or heat. Keep container closed and drum bungs in place.

## 8. FIRST AID MEASURES

EYE CONTACT FIRST AID: Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation develops or persists.

SKIN CONTACT FIRST AID: Immediately wash skin with plenty of soap and water while removing contaminated clothing and shoes. Get medical attention if irritation develops or persists.

INHALATION FIRST AID: Although this product is not known to cause respiratory problems, if breathing is difficult, remove to fresh air and provide oxygen. Get medical attention if cough or other symptoms develop. Remove from area of exposure. Seek immediate medical attention if respiratory irritation or distress continues.

INGESTION FIRST AID: Give milk or water. Do not induce vomiting. Get medical attention immediately.

STATEMENT OF PRACTICAL TREATMENT: Always have plenty of water available for first aid.

NOTES TO PHYSICIAN: Treat patient symptomatically.

## 9. PREPARATION DATE OF MSDS

Prepared By.....: Donato Polignone  
Approval Date.....: March 3, 2005

PRD Number.....: 791TZ (Official Copy)  
Supersedes Date...: November 16, 1999

ADDITIONAL INFORMATION: The data in this Material Safety Data Sheet relates only to the specific material designated herein.

It does not relate to use in combination with any other material or in any process.

This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of NuGeneration Technologies, LLC. The data on this sheet are related only to the specific material designated herein. NuGeneration Technologies, LLC assumes no legal responsibility for use or reliance upon these data.

END OF MSDS