1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Isopropyl Alcohol  
GENERAL USE: General Purpose Cleaning  
PRODUCT DESCRIPTION: Alcohol  
PRODUCT CODE: 1610/CAN/EUR-GS, G1, G4, G, 5G, 54G  
ACTIVE INGREDIENT(S): 2-Propanol

MANUFACTURER  
Kleen Concepts  
8551 East Anderson, #108  
Scottsdale, AZ  85255

24 HR. EMERGENCY TELEPHONE NUMBERS  
CHEMTREC (US Transportation) :(800) 424 - 9300

Emergency Contact: Chemtrec  
Product Stewardship: 1-800-858-4043  
Service Number: 1-800-858-4043

2. HAZARDS IDENTIFICATION

HAZARD DESIGNATION
"F" - Highly flammable  
R11 - Highly flammable.  
"Xi" - Irritant  
R36/38 - Irritating to eyes and skin.  
"N" - Dangerous for the environment  
R52 - Harmful to aquatic organisms.

EMERGENCY OVERVIEW

PHYSICAL APPEARANCE: Clear, Colorless, Volatile Liquid  
IMMEDIATE CONCERNS: Flammable liquid and vapor.

POTENTIAL HEALTH EFFECTS

EYES: Moderately irritating to the eyes.  
SKIN: Prolonged or repeated contact can result in defatting and drying of the skin which may result in skin irritation and dermatitis (rash).  
SKIN ABSORPTION: Skin absorption can occur.  
INGESTION: This product is toxic by ingestion. Ingestion may cause irritation of the digestive tract. Nausea and vomiting will most likely occur.  
INHALATION: High concentrations in immediate area can displace oxygen and can cause dizziness, unconsciousness, and possibly death with longer exposure. Keep people away from such vapors without self-contained breathing apparatus.

MSDS for MCM: #20-5105
3. COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Wt.%</th>
<th>CAS</th>
<th>EINECS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Propanol</td>
<td>99.6 - 100</td>
<td>67-63-0</td>
<td>200-661-0</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

**EYES:** Immediately flush eyes with plenty of water. Get medical attention, if irritation persists.

**SKIN:** Immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

**INGESTION:** Do not induce vomiting. Give milk or water. Get immediate medical attention immediately.

**INHALATION:** Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.

5. FIRE FIGHTING MEASURES

**FLASHPOINT AND METHOD:** 11.7°C (53°F) TAG CC

**FLAMMABLE LIMITS:** 2.0 to 12.0

**EXTINGUISHING MEDIA:** Use alcohol foam, carbon dioxide, or water spray when fighting fires involving this material.

**HAZARDOUS COMBUSTION PRODUCTS:** Smoke, fumes and oxides of carbon.

**EXPLOSION HAZARDS:** Vapors, when present in the flammable range (listed above), especially in a confined or poorly ventilated space, can be ignited with a flame or high intensity source of heat.

**FIRE FIGHTING PROCEDURES:** Use water spray to keep fire-exposed containers cool and to knock down vapors which may result from product decomposition.

**FIRE FIGHTING EQUIPMENT:** As in any fire, wear self-contained breathing apparatus pressure-demand, (MSHA/NIOSH approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

**GENERAL PROCEDURES:** Dike area to contain spill. Take precautions as necessary to prevent contamination of ground and surface waters. Recover spilled material on adsorbent, such as sawdust or vermiculite, and sweep into closed containers for disposal. After all visible traces, including vapors, have been removed thoroughly wet vacuum the area. Do not flush to sewer. If area of spill is porous, remove as much contaminated earth, gravel, etc. as necessary and place in closed containers for disposal.

**SPECIAL PROTECTIVE EQUIPMENT:** Only personnel equipped with proper respiratory and skin/eye protection should be permitted in area. See Section 8 for details.

**COMMENTS:** Remove all sources of ignition. Use spark-proof tools.

MSDS for MCM: #20-5105
7. HANDLING AND STORAGE

GENERAL PROCEDURES: Use spark proof tools and explosion proof equipment.

HANDLING: Ground and bond containers when transferring material.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE GUIDELINES

OSHA HAZARDOUS COMPONENTS (29 CFR1910.1200)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>OSHA PEL ppm</th>
<th>OSHA PEL mg/m³</th>
<th>ACGIH TLV ppm</th>
<th>ACGIH TLV mg/m³</th>
<th>SupplierOEL ppm</th>
<th>SupplierOEL mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Propanol</td>
<td>400</td>
<td>980</td>
<td>400</td>
<td>983</td>
<td>NL [1]</td>
<td>NL [1]</td>
</tr>
<tr>
<td>STEL</td>
<td>500 ppm</td>
<td>1225 mg/m³</td>
<td>500 ppm</td>
<td>1230 mg/m³</td>
<td>NL</td>
<td>NL</td>
</tr>
</tbody>
</table>

OSHA TABLE COMMENTS:
1. NL = Not Listed

ENGINEERING CONTROLS: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: For normal conditions, wear safety glasses. Where there is reasonable probability of liquid contact, wear splash-proof goggles.

SKIN: The glove(s) listed below may provide protection against permeation. Gloves of other chemically resistant materials may not provide adequate protection. Viton, Solvex, Butyl, Buna, Neoprene.

RESPIRATORY: 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. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Flash Point (°C)</th>
<th>Boiling Point (°C)</th>
<th>Specific Gravity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Propanol</td>
<td>53.6</td>
<td>82.4</td>
<td>0.785</td>
</tr>
</tbody>
</table>
PHYSICAL STATE: Liquid

ODOR: Alcohol odor

APPEARANCE: Clear, Colorless liquid

pH: Neutral

PERCENT VOLATILE: 100

VAPOR PRESSURE: 33 mmHg at 20°C

VAPOR DENSITY: 2.07 (Air=1)

BOILING POINT: to 82°C (180°F)

FREEZING POINT: to -88°C

FLASHPOINT AND METHOD: 11.7°C (53°F) TAG CC

SOLUBILITY IN WATER: Miscible

EVAPORATION RATE: to 1.7 (n-Butyl Acetate=1)

SPECIFIC GRAVITY: to 0.7850 (water=1)

MOLECULAR WEIGHT: 60.09 Formula: C₃H₈O

(VOC): 787.000 g/L (non-exempt VOC)

10. STABILITY AND REACTIVITY

STABLE: Yes

HAZARDOUS POLYMERIZATION: No

STABILITY: Stable under normal conditions.

POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: Heat, flames, ignition sources, and incompatables.

HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of Carbon (CO and CO₂) may form when heated to decomposition.

INCOMPATIBLE MATERIALS: Strong acids and alkalis, reactive metals and strong oxidizing agents.

11. TOXICOLOGICAL INFORMATION

ACUTE

DERMAL LD₅₀: 12800 mg/kg (rabbit)

ORAL LD₅₀: 5045 mg/kg (rat)
INHALATION LC$_{50}$: 16000 ppm, 8-hour

**EYE EFFECTS:** Draize test, rabbit, eye: 100 mg Severe; Draize test, rabbit, eye: 10 mg Moderate

**SKIN EFFECTS:** Draize test, rabbit, skin: 500 mg Mild.

**CARCINOGENICITY**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>NTP Status</th>
<th>IARC Status</th>
<th>OSHA Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Propanol</td>
<td>NOT LISTED</td>
<td>NOT LISTED</td>
<td>NOT LISTED</td>
</tr>
</tbody>
</table>

**IARC:** NOT listed  
**NTP:** NOT listed  
**OSHA:** NOT listed

**TERATOCENIC EFFECTS:** Test results indicate this compound/mixture is not teratogenic.

**ECOTOXICOLOGICAL INFORMATION:** Isopropyl alcohol has a high biochemical oxygen demand and a potential to cause oxygen depletion in aqueous systems, a low potential to affect aquatic organisms, a low potential to affect secondary waste treatment microbial metabolism, a low potential to affect the germination of some plants, a high potential to biodegrade (low persistence) with unacclimated microorganisms from activated sludge.

**DISPOSAL CONSIDERATIONS**

**DISPOSAL METHOD:** Federal, State, and Local laws governing disposal of materials can differ. Ensure compliance with proper authorities before disposal.

**TRANSPORT INFORMATION**

**DOT (DEPARTMENT OF TRANSPORTATION)**
- **PROPER SHIPPING NAME:** ISOPROPNOL
- **PRIMARY HAZARD CLASS/DIVISION:** 3
- **UN/NA NUMBER:** UN1219
- **PACKING GROUP:** II

**ROAD AND RAIL (ADR/RID)**
- **KEMLER NUMBER:** UN1219
- **HAZARD CLASS:** 3

**AIR (ICAO/IATA)**
- **SHIPPING NAME:** ISOPROPNOL
UN/NA NUMBER: UN1219
PRIMARY HAZARD CLASS/DIVISION: 3
PACKING GROUP: II

VESSEL (IMO/IMDG)
SHIPPING NAME: ISOPROPNOL
UN/NA NUMBER: UN1219
PRIMARY HAZARD CLASS/DIVISION: 3
PACKING GROUP: II

NOTE: Page 3244

CANADA TRANSPORT OF DANGEROUS GOODS
SHIPPING NAME: ISOPROPNOL
UN/NA NUMBER: UN1219
PRIMARY HAZARD CLASS/DIVISION: 3
TDG NOTE: FLASHPOINT 12 C

15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)
FIRE: Yes  ACUTE: Yes  CHRONIC: Yes

313 REPORTABLE INGREDIENTS: 2-propanol (CAS #67-63-0)

EPCRA SECTION 313 SUPPLIER NOTIFICATION

<table>
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<tr>
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<tbody>
<tr>
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TSCA (TOXIC SUBSTANCE CONTROL ACT)

<table>
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</tr>
</thead>
<tbody>
<tr>
<td>2-Propanol</td>
<td>67-63-0</td>
</tr>
</tbody>
</table>

TSCA REGULATORY: All chemicals in this product are listed on the TSCA Inventory.

CANADA


CANADA INGREDIENT DISCLOSURE LIST: CAS# 67-63-0 is listed on Canada's Ingredient Disclosure List.

DOMESTIC SUBSTANCE LIST (INVENTORY): All components of this product are listed on the Canadian DSL.

EUROPEAN COMMUNITY

MSDS for MCM: #20-5105
Conforms to ANSI Z400.5-2004 Standard (United States, Canada).

EEC LABEL SYMBOL AND CLASSIFICATION

"F" - Highly flammable
R11 - Highly flammable.

"Xi" - Irritant
R36/38 - Irritating to eyes and skin.

"N" - Dangerous for the environment
R52 - Harmful to aquatic organisms.

16. OTHER INFORMATION

HMIS RATING

<table>
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<tr>
<th>HEALTH:</th>
<th>FLAMMABILITY:</th>
<th>PHYSICAL HAZARD:</th>
<th>PERSONAL PROTECTION:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>3</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

NFPA CODES


MANUFACTURER DISCLAIMER: To the best of our knowledge, the information contained herein is accurate. However, neither Kleen Concepts, or any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist.

MSDS for MCM: #20-5105