

Material Safety Data Sheet

V-Cide® Chemical Vapor Sterilant Solution

Product Number Prefix: VC338

Certol
International

6120 East 58th Avenue
Commerce City, CO 80022
Office (303) 799-9401
Fax (303) 799-9408
Toll-free (800) 843-3343
www.Certol.com
24-Hour Emergency Telephone
INFOTRAC: 1-800-535-5053
Importé au Canada par/Imported to Canada by:
Trans Canada Distribution Inc.
Mississauga, ON L5L 5Y7

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Certol International, LLC urges each recipient of the MSDS to read it carefully to understand the hazards associated with the product. The reader should consider consulting reference works or individuals who are experts in ventilation, toxicology and fire prevention, as needed to understand the data in this MSDS.

To promote safe handling, each recipient of the MSDS should: (1) notify anyone using the material of the MSDS information regarding hazards or safety; (2) furnish the MSDS information to customers purchasing the product; and (3) request the customers furnish MSDS information to all users.

Emergency and First Aid Procedures

Swallowing: Rinse mouth and throat thoroughly with water. Drink large amounts of water. INDUCE vomiting. Do not give anything by mouth to an unconscious or convulsing person. Seek medical attention immediately.
Skin Contact: Flush thoroughly with water for 15 minutes. If irritation persists, seek medical attention.

Inhalation: Remove the affected victim from exposure. Administer artificial respiration if breathing stopped. Seek medical attention immediately.
Eye Contact: Flush eyes with water for 15 minutes. Seek medical attention immediately.

1. Identification

Product Name: V-Cide® Chemical Vapor Sterilant Solution
Chemical Name: Blend

2. Hazards

PRINCIPAL HAZARDOUS COMPONENTS	% WT	CAS #
Ethanol	57%	64-17-5
Methanol	35%	67-56-1
Formaldehyde	0.23%	50-00-0

3. Physical Data

Appearance: Clear liquid
Odor: Alcohol odor
Solubility in Water by Wt: 100% @ 68°F (20°C)
Boiling Point: 158 - 176°F (70 - 80°C) (approximate)
Freezing Point: Below 5°F (-15°C)
Vapor Pressure at 68°F (20°C): 50.0 mm Hg (approximate)
Vapor Density (Air = 1): 1.59 (approximate)
Evaporation Rate (BuAc = 1): 1.5 (approximate)
Specific Gravity (H₂O = 1): 0.795 - 0.825 g/cc
pH: 5.8 - 7.0 @ 68°F (20°C)

4. Fire and Explosion Hazard

Flash Point: ASTM D56 - 65°F (18°C) (in closed cup).
Flammable Limits in Air: For methyl alcohol - LEL: 6.0%, UEL: 36% (approximate)
Special Fire Fighting Procedures: Wear self-contained breathing apparatus and protective equipment.
Extinguishing Media: Carbon dioxide and dry chemical
Unusual Fire and Explosion Hazards: Flammable
Auto Ignition Temperature: 780°F (416°C) (approximate)

5. Health Hazard Data

Exposure Limits: Ethanol	TLV: 1000 ppm; 1880 mg/m ³ (as TWA) (ACGIH 1993-1994). OSHA PEL: TWA 1000 ppm (1900 mg/m ³) NIOSH REL: TWA 1000 ppm (1900 mg/m ³) NIOSH IDLH: 3300 ppm LEL
Exposure Limits: Methanol	TLV: 200 ppm; 262 mg/m ³ as TWA (skin) (ACGIH 1991-1992). TLV (as STEL): 250 ppm; 328 mg/m ³ (skin) (ACGIH 1992-1993). OSHA PEL: TWA 200 ppm (260 mg/m ³) NIOSH REL: TWA 200 ppm (260 mg/m ³) ST 250 ppm (325 mg/m ³) (skin) NIOSH IDLH: 6000 ppm
Exposure Limits: Formaldehyde	ACGIH: 0.3 ppm Ceiling OSHA PEL: 0.75 ppm TWA; 0.5 ppm Action Level; 0.75 ppm TWA; 2 ppm STEL NIOSH IDLH: 0.016 ppm TWA 20 ppm

Effect of Overexposure:

Swallowing: May be harmful or fatal; may cause blindness. High-level exposure may induce birth defects.
Skin Contact: May cause irritation and dryness
Inhalation: Headache, nausea, and drowsiness
Eye Contact: Causes substantial but temporary eye damage
Toxicity: Not a primary dermal irritant. Non-allergenic and non-mutagenic. A transient eye irritant.

Carcinogenicity:

NTP: Formaldehyde - reasonably anticipated to be a human carcinogen.
IARC: Formaldehyde - is known to be a human carcinogen.
OSHA: Formaldehyde - is known to be a human carcinogen.
California: Prop 65 Warning - This product contains formaldehyde, a chemical known to the state of California to cause cancer.

6. Reactivity Data

Stability: Stable

Conditions to Avoid: Heat, fire and ignition sources

Incompatibility (Materials to Avoid): Concentrated inorganic acids and strong oxidizing agents

Hazardous Combustion or Decomposition Products:

Burning can produce carbon monoxide and/or carbon dioxide.

Hazardous Polymerization: Will not occur

7. Spill, Leak, and Waste Disposal Procedures

Steps to be Taken If Material is Released or Spilled:

Extinguish and do not turn on any ignition source. Flush small spills with water. Wear suitable protective equipment. Collect large spills for disposal.

Waste Disposal Method: Dispose according to all local, state, and federal regulations.

8. Handling and Storage

Store in a closed container.

Store in a cool dry area, do not expose to temperatures above 90°F for long periods. Keep away from heat or open flames.

Do not use as a cleaning solvent. Keep out of reach of children.

9. Special Protection Information

Respiratory Protection: Not normally required. A mask or respirator may be used if vapor concentration is high.

Ventilation: Use in a well-ventilated area to eliminate vapors. Avoid inhalation of fumes.

Protective Gloves: Chemical resistant gloves

Eye Protection: Safety goggles and/or face shield

Other Protective Clothing or Equipment: An eyewash station should be nearby and ready for use.

10. Regulation Information

Status on Substance List: None known

DIN: 02233054

State Right-To-Know: SARA TITLE III, sections:

311/312/313 - Formaldehyde

311/312 - Methanol

311/312 - Ethanol

11. Transportation Data

Proper Shipping Name: None

D.O.T. (Ground): ORM-D Consumer Commodity

I.A.T.A. (Air): ORM-D Consumer Commodity

(contains flammable liquids); ethanol and methanol, UN 1993, Class 3, PG III

CHEMICAL WARNING LABELS

Required on containers, tubs, and bottles, which are filled from original containers with potentially hazardous substances.

Hazard rating corresponding to the NFPA Rating System:

- 4 - Extreme**
- 3 - High**
- 2 - Moderate**
- 1 - Slight**
- 0 - Insignificant**

NFPA HAZARD RATING

HEALTH: 3

FLAMMABILITY: 3

REACTIVITY: 1

Chemical Warning Label - Certol International, LLC

V-Cide® Chemical Vapor Sterilant Solution

No wall reference is necessary

Product Name: V-Cide® Chemical Vapor Sterilant Solution

Hazardous Chemicals: Ethanol, methanol, formaldehyde

Personal Protection: Gloves, safety goggles, and/or face shield

<u>ROUTE OF ENTRY</u>	<u>HEALTH HAZARD</u>	<u>FIRE HAZARD</u>
<input checked="" type="checkbox"/> Inhalation <input checked="" type="checkbox"/> Ingestion <input checked="" type="checkbox"/> Skin/eye absorption	<input checked="" type="checkbox"/> Irritant <input checked="" type="checkbox"/> Carcinogen <input checked="" type="checkbox"/> Toxic <input type="checkbox"/> Sensitizer <input type="checkbox"/> Normal Material	<input checked="" type="checkbox"/> Below 73°F (23°C) <input type="checkbox"/> Below 100°F (38°C) <input type="checkbox"/> Above 100°F (38°C) & not > 200°F (93°C) <input type="checkbox"/> Above 200°F (93°C) <input type="checkbox"/> Will Not Burn
<u>TARGET ORGAN EFFECTS</u>	<u>PHYSICAL HAZARD</u>	<u>REACTIVITY</u>
<input checked="" type="checkbox"/> Respiratory <input type="checkbox"/> Heart <input type="checkbox"/> Kidney <input checked="" type="checkbox"/> Eyes <input checked="" type="checkbox"/> Skin <input type="checkbox"/> Prostate <input type="checkbox"/> Blood <input type="checkbox"/> Liver <input type="checkbox"/> CNS <input type="checkbox"/> Other	<input type="checkbox"/> Oxidizer <input type="checkbox"/> Acid <input type="checkbox"/> Alkali <input type="checkbox"/> Corrosive <input type="checkbox"/> Use no water <input type="checkbox"/> Radioactive	<input type="checkbox"/> May detonate <input type="checkbox"/> Shock and heat may detonate <input type="checkbox"/> Violent chemical change <input type="checkbox"/> Unstable if heated <input checked="" type="checkbox"/> Stable

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