



## MATERIAL SAFETY DATA SHEET

### 1. Product And Company Identification

**Product Name:** CaviCide1™  
**Manufacturer:** METREX® RESEARCH  
28210 Wick Rd  
Romulus, MI 48174  
U.S.A.

**Information Phone Number:** 1-800-841-1428 (Customer Service)

**Chemical Emergency Phone Number** (Chemical Spills, Leaks, Fire, Exposure or Accident only):  
CHEMTREC 1-800-424-9300 (in the US) 1-703-527-3887 (Outside the US)

**MSDS Date Of Preparation/Revision:** 3/5/2012  
**Product Use:** Hard surface cleaner and disinfectant.  
**EPA Registration No:** 46781-12

### 2. Hazards Identification

Hazy to clear liquid with an alcohol odor.

## EMERGENCY OVERVIEW

Flammable liquid and vapor. Causes substantial but temporary eye injury. May cause mild skin irritation. Inhalation of concentrated vapors may cause irritation of the eyes, nose and throat and dizziness and drowsiness. Prolonged overexposure to ethylene glycol monobutyl ether may affect liver, kidneys, blood, lymphatic system or central nervous system.

### 3. Composition/Information On Ingredients

Component	CAS No.	Amount
Isopropanol	67-63-0	15%
Ethanol	64-17-5	7.5%
Ethylene Glycol Monobutyl Ether (2-Butoxyethanol)	111-76-2	1-5%
Didecyltrimethylammonium chloride	7173-51-5	0.76%
Water	7732-18-5	70-80%

### 4. First Aid Measures

**Inhalation:** Move to fresh air if effects occur and seek medical attention if effects persist.

**Skin Contact:** Remove contaminated clothing. Wash all affected and exposed areas with soap and water. If skin irritation or redness develops and persists, seek medical attention.



**Eye Contact:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. Call a poison control center or doctor for treatment advice.

**Ingestion:** If swallowed, get medical advice by calling a Poison Control Center or hospital emergency room. If advice is not available, take victim and product container to the nearest emergency treatment center or hospital. Do not attempt to give anything by mouth to an unconscious person.

## **5. Fire Fighting Measures**

**Extinguishing Media:** Use water spray or fog, alcohol-resistant foam, carbon dioxide or dry chemical. Cool fire exposed containers with water.

**Special Fire Fighting Procedures:** Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for fires in areas where chemicals are used or stored.

**Unusual Fire Hazards:** Flammable liquid and vapor. May form explosive mixtures in air at temperatures at or above the flashpoint. Flammable vapors may collect in confined areas. Vapors are heavier than air and may travel along surfaces to remote ignition sources and flashback. Fire exposed containers may rupture explosively.

**Hazardous Combustion Products:** Burning may produce carbon monoxide, carbon dioxide, ammonia, chlorine and hydrogen chloride.

## **6: Accidental Release Measures**

Eliminate all ignition sources. Ventilate area. Use explosion-proof equipment if large amounts are released. Stop leak if it is safe to do so and move containers from the spill area. Wear appropriate protective clothing and equipment (See Section 8). Collect material with an inert absorbent material and place in appropriate, labeled container for disposal. Refer to Section 13 for disposal advice.

## **7. Handling and Storage**

Do not get in eyes or on clothing. Wear appropriate eye protection when handling (see Section 8). Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

Flammable liquid and vapor. Keep away from heat, sparks, open flames and all other sources of ignition. Do not smoke in storage or use areas. Keep containers closed when not in use. Do not reuse empty containers.

Store in a cool, well ventilated area away from heat, oxidizers and all sources of ignition. Empty containers retain product residues and may be hazardous. Do not flame cut, drill, weld, etc. on or near empty containers, even empty.

## 8. Exposure Controls / Personal Protection

### Exposure Limits

Chemical	Exposure Limit
Isopropanol	200 ppm TWA, 400 ppm STEL ACGIH TLV 400 ppm TWA OSHA PEL
Ethanol	1000 ppm STEL ACGIH TLV 1000 ppm TWA OSHA PEL
Ethylene Glycol Monobutyl Ether (2-Butoxyethanol)	20 ppm TWA ACGIH TLV 50 ppm skin TWA OSHA PEL
Didecyltrimethylammonium chloride	None Established

**Ventilation:** General ventilation should be adequate for normal use. For operations where the exposure limits may be exceeded, mechanical ventilation such as local exhaust may be needed to minimize exposure.

**Respiratory Protection:** None under normal use conditions with adequate ventilation. For operations where the occupational exposure limits are exceeded, a NIOSH/MSHA approved respirator with an organic vapor cartridges or supplied air respirator is recommended. Equipment selection depends on contaminant type and concentration. Select in accordance with 29 CFR 1910.134 and good industrial hygiene practice. For firefighting, use self-contained breathing apparatus.

**Gloves:** Impervious gloves such as butyl rubber or nitrile are recommended for operations which may result in prolonged or repeated skin contact.

**Eye Protection:** Splash proof goggles, face shield, or safety glasses are recommended to prevent eye contact.

**Other Protective Equipment/Clothing:** Wear protective clothing if needed to avoid prolonged/repeated skin contact. Suitable washing and eye flushing facilities should be available in the work area. Contaminated clothing should be removed and laundered before re-use.

## 9. Physical and Chemical Properties

**Appearance And Odor:** Hazy to clear liquid with an alcohol odor.

Boiling Point:	Not Determined	Specific Gravity:	0.964
Solubility in Water:	Complete	pH:	11.0 -12.49
Vapor Pressure:	19 kPa @ 20°C (ethanol)	Vapor Density:	5.87 (ethanol)
Percent Volatile:	>95%	Melting/Freezing Point:	Not Determined
Coefficient of Water/Oil Distribution:	Not Determined		
Flash Point:	34.4°C (93.4°F)	Flammable Limits: (Propellant)	LEL: 2.5% UEL: 19%

## 10. Stability and Reactivity

**Stability:** Stable

**Conditions To Avoid:** Heat, sparks, flames and all other sources of ignition.

**Incompatibility:** Strong oxidizing agents, acids and strong alkalis.

**Hazardous Decomposition Products:** Thermal decomposition will produce carbon monoxide, carbon dioxide, ammonia, chlorine and hydrogen chloride.

**Hazardous Polymerization:** Will not occur.

## 11. Toxicological Information

### Potential Health Effects:

#### Acute Hazards:

**Inhalation:** May cause irritation of the nose, throat and upper respiratory tract. High vapor concentrations may produce nausea, vomiting, headache, dizziness, drowsiness, weakness, fatigue, narcosis and possible unconsciousness. Not acutely toxic in rats.

**Skin Contact:** Prolonged or repeated exposure may cause mild irritation. No signs of toxicity or irritation were observed in a dermal toxicity study in rats. Slightly irritating in a primary irritation study with rabbits. Negative in a skin sensitization study with guinea pigs.

**Eye Contact:** May cause irritation with tearing, redness and pain. Moderate irritant in an eye irritation study with rabbits. Effects reversed in 10 days.

**Ingestion:** Ingestion may cause gastrointestinal disturbances and central nervous system effects such as headache, dizziness, drowsiness and nausea. Not acutely toxic in rats.

**Chronic Hazards:** Prolonged overexposure to ethylene glycol monobutyl ether may affect liver, kidneys, blood, lymphatic system or central nervous system. Prolonged or repeated exposure to ethanol may cause liver and kidney effects. Consumption of ethyl alcohol during pregnancy may cause mental retardation and other birth defects.

**Medical Conditions Aggravated By Exposure:** Due to its defatting properties, isopropyl alcohol may aggravate an existing skin condition. Ingestion of ethyl alcohol may aggravate an existing liver condition.

**Carcinogen:** None of the components is listed as a carcinogen or potential carcinogen by IARC, NTP, ACGIH, or OSHA.

#### Acute Toxicity Values for CaviCide 1:

LD50 Oral Rat >5050 mg/kg

LD50 Dermal Rat >5000 mg/kg

LC50 inhalation LC50 rat >2.16 mg/L

## 12. Ecological Information

This product is classified as Acute and Chronic Aquatic Toxicity Category 3 based on the GHS criteria for aquatic toxicity. Harmful to aquatic life with long lasting effects.

**Toxicity:**



Ethanol: LC50 rainbow trout 13000 mg/L/96 hr; LC50 daphnia magna 9268-14221 mg/L/48 hr; EC50 Chlorella pyrenoidosa (Green algae; growth inhibition) 9310 mg/L/48 hr  
Isopropanol: LC50 fathead minnows 11,130 mg/L/48 hr; LC50 brown shrimp 1400 mg/L/48 hr  
Didecyldimethylammonium chloride: LC50 bluegill sunfish 0.32 mg/L/96 hr, EC50 daphnia magna 0.94 mg/L/48 hr.

**Persistence and degradability:** Ethanol, isopropanol and didecyldimethylammonium chloride are readily biodegradable in screening tests.

**Bioaccumulative Potential:** Ethanol and isopropanol have an estimated BCF of 3 suggesting that the potential for bioaccumulation is low. A BCF of 81 for didecyldimethylammonium chloride suggests bioconcentration in aquatic organisms is moderate.

**Mobility in Soil:** Ethanol and isopropanol are expected to have very high mobility in soil. If released to soil, didecyldimethylammonium chloride is expected to have no mobility based upon Koc values greater than  $4.4 \times 10^5$ .

### 13. Disposal Considerations

Do not contaminate water, food, or feed by storage and disposal.

**Pesticide Disposal:** Unused product or wastes resulting from the use of this product may be disposed of according to applicable Federal, State, or local procedures.

**Container Disposal:** Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available.

### 14. Transport Information

#### U.S. DOT Hazard Classification

Proper Shipping Name: Not Regulated per alcohol exception (49CFR 173.150(e))

Technical Name: N/A

UN Number: N/A

Hazard Class/Packing Group: N/A

Labels Required: N/A

DOT MARINE POLLUTANTS: This product does not contain Marine Pollutants as defined in 49 CFR 171.8.

#### IMDG Code Shipping Classification

Proper Shipping Name: Alcohols, n.o.s. (Isopropanol, ethanol)

UN Number: UN1987

Hazard Class: 3

Packing Group: III

Labels Required: Flammable Liquid (Class 3)

Placards Required: Class 3

Not classified as a marine pollutant



ICAO Air Transport Classification  
Proper Shipping Name: Alcohols, n.o.s. (Isopropanol, ethanol)  
ID Number: UN1987  
Hazard Class: 3  
Packing Group: III  
Labels Required: Class 3

### **15. Regulatory Information**

**EPA SARA 311/312 Hazard Classification:** Fire Hazard, Acute Health, Chronic Health

**EPA SARA 313:** This Product Contains the Following Chemicals Subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372):  
Ethylene Glycol Monobutyl Ether (Glycol Ether) 1-5%

**Protection Of Stratospheric Ozone:** This product is not known to contain or to have been manufactured with ozone depleting substances as defined in 40 CFR Part 82, Appendix A to Subpart A.

**CERCLA SECTION 103:** This product is not subject to CERCLA reporting requirements; however, many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

**EPA TSCA Inventory:** All of the components of this material are listed on the Toxic Substances Control Act (TSCA) Chemical Substances Inventory or exempt.

### **16. Other Information**

NFPA Rating: Fire: 3                      Health: 2                      Instability: 0

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