

MATERIAL SAFETY DATA SHEET

CHEMORSE, LTD

MSDS NUMBER: 10001

DATE PREPARED: 5/97

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Chemsurf 90
DESCRIPTION: Agricultural Adjuvant
MANUFACTURER: CHEMORSE, LTD
4685 Merle Hay =Road, Suite 204
Des Moines, Iowa =50322

EMERGENCY CONTACT: In the event of chemical emergencies involving a spill, leak, fire exposure, or accident involving chemicals – call: CHEMTREC (800) 424-9300.

2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>COMPONENTS</u>	<u>% BY WEIGHT</u>
Proprietary Blend of Adjuvants and Formulation Aids	90%

HAZARDOUS INGREDIENTS:

Isopropyl Alcohol	CAS#: 67-63-0
Ethanol, 2,2'-oxybis	CAS#: 111-46-6

EXPOSURE STANDARDS: The ACGIH and OSHA have established a TWA of 400 ppm in 8 hours and a STEL of 500 ppm in 15 minutes for isopropyl alcohol.

3. HAZARDS IDENTIFICATION

***** EMERGENCY OVERVIEW *****

Light yellow liquid with alcohol odor that may be irritating to eyes and skin. Vapors or mist may be irritating and cause discomfort in nose and throat. Ingestion may irritate the digestive tract.

POTENTIAL HEALTH EFFECTS:

EYE: May cause severe eye irritation, redness, tearing, and blurred vision.

SKIN: Brief contact may cause slight irritation. Prolonged contact, as with clothing wetted with material, may cause more severe irritation and discomfort, seen as local redness and swelling.

INHALATION: Vapors or mist may be irritating and cause discomfort in nose and throat, nasal discharge, and coughing. Prolonged overexposure may cause difficulty in breathing. Inhalation may cause dizziness, drowsiness, euphoria, loss of coordination, disorientation, headache, nausea, and vomiting. In poorly ventilated areas or confined spaces, unconsciousness and asphyxiation may result.

INGESTION: Contains ethylene glycol and/or diethylene glycol, which are toxic when swallowed. A lethal dose for an adult is 1-2 ml per kilograms, or about 4 ounces (1/2 cup). Symptoms include headache, weakness, confusion, dizziness, staggering, slurred speech, loss of coordination, faintness, nausea and vomiting, increased heart rate, decreased blood pressure, difficult in breathing and seeing, pulmonary edema, unconsciousness, convulsion, collapse, and coma. Symptoms may be delayed. Decreased urine output and kidney failure may also occur. Severe poisoning may cause death.

4. FIRST AID MEASURES

EYES: For eye contact, flush with isotonic eye wash solution for 15 minutes and immediately

contact a physician.

SKIN: In case of skin contact, remove exposed clothing and wash exposed skin with fresh water for 15 minutes. Seek immediate medical attention from a physician if irritation persists.

INHALATION: If overcome by exposure, remove victim to fresh air immediately and apply artificial respiration or oxygen. Immediately obtain medical attention from a physician.

INGESTION: If person is conscious and can swallow, immediately give two glasses of water (16 oz.). Induce vomiting as directed by a physician. Do not induce vomiting or give anything by mouth to an unconscious or convulsing person.

OTHER INSTRUCTIONS: Immediate treatment, supplemented with hemodialysis if indicated, of ethylene (diethylene) glycol poisoning may limit the progression and severity of toxic effects. Intravenous ethanol in sodium bicarbonate solution is a recognized antidotal treatment; other antidotal treatments also exist for ethylene (diethylene) glycol poisoning. Contact a Poison Center for further treatment information.

5. FIRE FIGHTING MEASURES

FLASH POINT (Method): 120°F (closed cup, D-56)

AUTOIGNITION TEMPERATURE: Not determined

FLAMMABLE LIMITS: Lower: Not determined
Upper: Not determined

EXTINGUISHING MEDIA: Use water spray, dry chemical, foam or carbon dioxide (CO₂) to extinguish flames. Use water spray to cool fire-exposed containers and to protect personnel.

SPECIAL FIRE FIGHTING PROCEDURES: Do not enter fire area without proper protection (See Hazard Decomposition, Section 10). Fight fire from a safe distance and protected location. Heat may build pressure and rupture closed containers, spreading fire and increasing the risk of injury. Water may be ineffective in fire fighting. Use water spray/fog for cooling containers and firefighters. Notify proper authorities if liquid material enters the sewer or public water.

6. ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE: An unauthorized release of this material to the environment may be reportable under federal law to the National Response Center. Also, state and local authorities may have additional reporting requirements of which the user of this material should be aware. Use emergency response personnel if spill is beyond the capability of in-house personnel. For small spills, dike and absorb spilled liquid with an inert absorbent. Prevent entry into sewers or waterways. Wear appropriate personal protective equipment and avoid contact with skin, eyes or clothing.

Contaminated soil or water may be RCRA/OSHA hazardous waste due to potentially low flash point (See 40 CFR 261 and 19 CFR 1910). When disposing of this material, ensure that it is packaged, stored, transported, and otherwise managed in accordance with state and federal regulations.

7. HANDLING AND STORAGE

HANDLING: Avoid contact with eyes. Keep container closed when not in use. Use in well-ventilated area. Do not flame out, braze, or weld empty containers as the residue is flammable. Use only non-sparking tools. Wash thoroughly after handling. Avoid prolonged or repeated breathing of vapor. Avoid prolonged or repeated contact with skin. Do not reuse this container.

STORAGE: Store large amounts in tightly closed and properly vented containers with bung in up position. Store between 40°F and 120°F. Keep away from heat and flame. Store in a cool dry place. Keep container closed when not in use. Carefully vent before opening drum.

Containers should be grounded before transfer of material. Electrical equipment should conform to the National Electric Code. Material may soften and dissolve rubber and plastic fittings and coatings. Continue all label precautions.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

RESPIRATORY PROTECTION: For most conditions, no respiratory protection should be needed; however, use NIOSH/MSHA approved organic vapor respirator as necessary. For concentrations above 1,000 ppm, use air-supplied or self-contained breathing apparatus.

EYE PROTECTION: Do not wear contact lenses. Wear OSHA standard chemical splash goggles. Consult safety equipment supplier.

SKIN PROTECTION: Wear impervious clothing. Emergency eye wash fountains and safety showers should be available. Use good personal hygiene practices.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Light yellow liquid
ODOR:	Alcohol
pH:	6.2 (1% in water)
SPECIFIC GRAVITY:	1.025
FLASH POINT:	120°F (closed cup D-56)
COLOR (GARDNER):	4-7
SOLUBILITY IN WATER:	Dispersible

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable at ambient temperatures and atmospheric pressure.

CONDITIONS TO AVOID: Strong oxidizing agents. Isolate from oxidizers, heat, and open flame. Keep material away from aluminum metal, oleum, and nitroform.

HAZARDOUS DECOMPOSITION: Incomplete combustion may yield carbon monoxide and other hazardous gas.

11. TOXICOLOGICAL INFORMATION

ACUTE ORAL: No information available.

ACUTE DERMAL: LD50 believed to be >3.00 g/kg (rabbit), practically =non-toxic.

OTHER: This product may contain residual (less than 100 ppm) =concentrations of ethylene oxide. Ethylene oxide causes tumors in laboratory animals.

12. ECOLOGICAL INFORMATION

No information available

13. DISPOSAL CONSIDERATIONS

Any disposal practice must be in compliance with local, state, and federal laws and regulations (contact local or state environmental agency for specific rules). Empty containers must be handled with care due to product residue.

14. TRANSPORTATION INFORMATION

DOT SHIPPING DESCRIPTION: Domestic bulk shipments (defined as a single package having a minimum capacity of greater than 450 L - 119 gallons) are regulated as follows:

Combustible Liquid, N.O.S. (contains Isopropanol), NA 1993, PG III
Nonbulk domestic shipments are not regulated.

15. REGULATORY INFORMATION

SARA 313 INFORMATION: This product contains the following substances subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

Isopropyl Alcohol	CAS # =67-63-0	3.0-9.99%
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16. OTHER INFORMATION

A maximum of 1 ppm of ethylene oxide (EO) (75-21-8) may be present in this product. The OSHA PEL and the ACGIH TLV EO are 1 (one) ppm. Ethylene oxide is a NTP, IARC, and OSHA carcinogen. EO has also been determined to be a reproductive hazard. The trace levels of EO in this product are not expected to result in acute or long term hazards when handled according to the precautions set forth in this MSDS. However, EO may accumulate in the container head space and be released into the ambient environment. It is the responsibility of the employer to comply with OSHA ethylene oxide standards (29 CFR 1910.1047).

DISCLAIMER OF LIABILITY

Chemorse, Ltd. makes no warranty, representation or guarantee as to the accuracy, sufficiency or completeness of the material set forth herein. It is the user's responsibility to determine the safety, toxicity and suitability of his own use, handling and disposal of this product. Since actual use by others is beyond our control; no warranty, expressed or implied, is made by Chemorse, Ltd. as to the effects of such use, the results to be obtained or the safety and toxicity of this product, nor does Chemorse, Ltd. assume liability arising out of the use by others of this product referred to herein. The data in this MSDS relates only to the specific material designated herein and does not relate to use in combination with any other materials or in any process.