

## Material Safety Data Sheet

### SECTION 1 – CHEMICAL PRODUCT AND COMPANY INFORMATION

**Product Name:** Hydro-Clean

**Part Number:** none

**Chemical Family:** Contains Isopropyl Alcohol and Ethanol

**Manufacturer's Name:** Siemens Industry, Inc. - Water Technologies Business Unit

**Address:** 301 West Military Road, Rothschild, WI 54474

**Product/Technical Information Phone Number:** 800-826-1838

**Medical/Handling Emergency Phone Number:** CHEMTREC 1-800-424-9300

**Transportation Emergency Phone Number:** CHEMTREC 1-800-424-9300

**Issue Date:** September 26, 2000

**Revision Date/Revision Number:** April 11, 2011 / Revision 1

### SECTION 2 – COMPOSITION INFORMATION

Chemical Name	Percent by Weight	CAS#
isopropyl alcohol Approx.	30%	67-63-0
ethyl alcohol Approx.	5%	64-17-5
sodium dioctyl sulfosuccinate (irritant) Approx.	50%	N/A

### SECTION 3 – HAZARDS IDENTIFICATION

**Appearance & Odor:** Straw-colored liquid with an alcoholic odor.

#### Emergency Overview:

- ◆ Intentional abuse, misuse, or other massive exposure to Isopropyl alcohol may result in difficulty breathing, nausea, vomiting and headache accompanied by various degrees of CNS depression.
- ◆ Coma and/or death are even possible.
- ◆ Vapors may cause eye, nose or throat irritation.
- ◆ Skin contact may be irritating and may cause sensitization.
- ◆ This product near heat creates a fire hazard.
- ◆ Oxidizers could cause a dangerous reaction or fire.
- ◆ Acids may cause this product to explode or otherwise react violently.

**Fire & Explosion Hazards:** Thermal decomposition (as may be experienced in a fire) may produce carbon monoxide, carbon dioxide and/or oxides of sulfur.

**Primary Route(s) of Exposure:** Skin contact is the primary route of exposure.

**Inhalation – Acute Effects:** Irritating to respiratory tract mucous membranes. Overexposure to vapor may cause cough, dizziness, drowsiness, headache, eye or respiratory tract irritation, nausea, sore throat, vomiting, incoordination and narcosis.

**Skin Contact – Acute Effects:** Liquid may cause mild to marked skin irritation on contact.

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**Eye Contact – Acute Effects:** Liquid may cause mild to marked eye irritation on contact, including redness, pain and blurred vision.

**Ingestion – Acute Effects:** May cause irritation of the mucous membranes of the gastrointestinal tract. Ingestion may cause dizziness, drowsiness, gastrointestinal pain, nausea and vomiting.

### SECTION 4 – FIRST AID MEASURES

**Inhalation First Aid:** Remove patient to fresh air. Observe for possible delayed reaction. If breathing has stopped, give artificial respiration. If breathing with difficulty, give oxygen, provided a qualified operator is available. Get emergency medical attention.

**Skin Contact First Aid:** Immediately remove clothing from affected area and wash skin for 15 minutes with flowing water. Clothing should be discarded or washed before reuse. Obtain medical attention.

**Eye Contact First Aid:** Immediately flush eyes with plenty of water continuously for at least 15 minutes. Hold eyelids open to ensure flushing of the entire eye surface. Contacts should be removed before or during flushing. Rinsing eyes within one minute and for not less than 15 minutes is essential to achieve maximum effectiveness. Get emergency medical treatment. Continue flushing with water if medical attention is not immediately available. DO NOT instruct person to neutralize.

**Ingestion First Aid:** If victim is alert and not convulsing rinse mouth with water and give plenty of water to drink. If spontaneous vomiting occurs, have affected person lean forward with head down to avoid breathing in of vomitus. Rinse mouth again and give more water to drink. Call a physician or poison control center IMMEDIATELY. DO NOT INDUCE VOMITING UNLESS DIRECTED BY A PHYSICIAN.

**Medical Conditions Aggravated:** Preexisting skin disorders may be aggravated.

**Note to Physician:** No specific antidote, treat patient symptomatically.

### SECTION 5 – FIRE FIGHTING MEASURES

**Flash Point/Method:** 90°F (Tag Closed Cup)

**Auto Ignition Temperature:** Not available

**Upper/Lower Flammable Limits:** 2.0 lower; 12 upper (values for isopropyl alcohol)

**Extinguishing Media:** Dry chemical or alcohol-type foam, waterspray may be ineffective.

**Fire Fighting Procedures:** Cool non-leaking fire-exposed containers with water spray to prevent rupture. If spill or leak has not ignited, use waterspray to disperse the vapors and to protect personnel attempting to stop a leak. Waterspray may be used to flush spills away from exposures and to dilute spills to non-flammable mixtures. Firefighters should always wear protective clothing and positive pressure self-contained breathing apparatus when fighting fires near chemicals.

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**Fire & Explosion Hazards:** Vapors may travel to a source of ignition and flash back. Thermal decomposition (as may be experienced in a fire) may produce carbon monoxide, carbon dioxide and/or oxides of sulfur.

**Hazardous Products of Decomposition and/or Combustion:** May produce carbon monoxide, carbon dioxide and/or oxides of sulfur.

**NFPA Ratings:**

HEALTH-2    FLAMMABILITY-3    REACTIVITY-0    OTHER-none

### SECTION 6 – ACCIDENTAL RELEASE MEASURES

**Spill/Leak Procedures:** Persons performing clean-up work should wear adequate personal protective equipment and clothing. Eliminate all sources of ignition. Contain and clean up spills immediately with inert absorbent material and place into approved container for disposal. Flush spill area with large volumes of water.

**Cleanup:** Persons performing clean-up work should wear adequate personal protective equipment and clothing. Eliminate all sources of ignition. Contain and clean up spills immediately with inert absorbent material and place into approved container for disposal. Flush spill area with large volumes of water. Attempt to keep spilled material out of sewers, lakes, rivers, streams, and other public waters. Recovered spill material or unused product which cannot be recycled or used is a hazardous waste by characteristic of ignitability as defined by 40 CFR 261. Material that cannot be used or chemically reprocessed and empty containers should be disposed of in accordance with all applicable regulations. Product containers should be thoroughly emptied before disposal.

**Regulatory Requirements:** All disposal methods must be in compliance with all Federal, State, Local and Provincial laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. Generators of waste material are required to evaluate all waste for compliance with RCRA and any local disposal procedures and regulations. NOTE: State and local regulations may be more stringent than federal regulations.

**Disposal:** Attempt to keep spilled material out of sewers, lakes, rivers, streams, and other public waters. DO NOT DUMP INTO ANY SEWERS, ON THE GROUND OR INTO ANY BODY OF WATER. All disposal methods must be in compliance with all Federal, State, Local and Provincial laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. Material that cannot be used or chemically reprocessed and empty containers should be disposed of in accordance with all applicable regulations. Product containers should be thoroughly emptied before disposal. Generators of waste material are required to evaluate all waste for compliance with RCRA and any local disposal procedures and regulations. NOTE: State and local regulations may be more stringent than federal regulations.

### SECTION 7 – HANDLING AND STORAGE

**Handling:** Do not get in eyes, or skin, or on clothing. Do not breathe vapor or mists. Do not take internally. Use with adequate ventilation and use protective equipment. Wash thoroughly after

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handling. A water source and a shower should be installed in work areas. Wash contaminated clothing before reuse. Store in a dry area away from incompatible materials. Store in cool area away from heat, sparks, and open flame. Keep container tightly closed when not in use. Protect container from physical damage. Changes in temperature create air pressure inside drums. Use proper caution in unscrewing plug and inserting faucet. Unscrew plug slowly, allowing air to escape before completely removing plug. Do not mix with any other concentrated chemicals. Do not wear contact lenses when working with chemicals. Always practice good housekeeping when handling and storing any chemicals.

**Storage:** See Above

**General Comments:** See Above

### SECTION 8 –PERSONAL PROTECTION/ EXPOSURE CONTROL

**Respiratory Protection:** NIOSH approved full face piece respirator if air concentration exceeds TLV. Consult respirator manufacturer for appropriate respirator type.

**Skin Protection:** Rubber protective gloves, long-sleeved shirt, long-pants, rubber apron and rubber boots.

**Eye Protection:** Chemical splash goggles if not wearing full face piece respirator.

**Ventilation Protection:** Local exhaust capable of maintaining vapors or mist below the TLV at point of use.

**Other Protection:** Safety showers, with quick opening valves which stay open, and eye wash fountains, or other means of washing the eyes with a gently flow of cool to tepid tap water, should be readily available in all areas where this material is handled or stored.

Water should be supplied through insulated and heat-traced lines to prevent freeze-ups in cold weather.

#### Exposure Limits:

isopropyl alcohol - CAS # 67-63-0 OSHA PEL: 980 mg/m<sup>3</sup>

ACGIH TWA: 983 mg/m<sup>3</sup>

ethyl alcohol - CAS # 64-17-5 OSHA PEL: 1900 mg/m<sup>3</sup>

ACGIH TWA: 1880 mg/m<sup>3</sup>

sodium dioctyl sulfosuccinate (irritant) OSHA & ACGIH: none listed

### SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

**Appearance & Odor:** Straw-colored liquid with an alcoholic odor.

**Vapor Pressure:** Not available

**Vapor Density (Air=1):** Not available

**Boiling Point:** Not available

**Melting Point:** not available

**Specific Gravity:** 1.02 - 1.03

**Solubility in Water:** Complete

**Volatile Percentage:** approx. 25

**pH:** not available

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**Flash Point/method:** 90° (Tag Closed Cup)

**Auto Ignition Temperature:** Not available

**Upper/Lower Explosion Limits:** Not available

**Other:** none

### SECTION 10 – STABILITY AND REACTIVITY

**Stability:** stable

**Incompatibilities:** Strong acids and alkalies cause hydrolysis; avoid strong oxidizing agents. Aqueous solutions of this material will corrode steel.

**Polymerization:** Hazardous polymerization will not occur.

**Decomposition:** Thermal decomposition (as may be experienced in a fire) may produce carbon monoxide, carbon dioxide and/or oxides of sulfur.

**Conditions to Avoid:** Avoid exposure to heat, sparks, and open flame.

### SECTION 11 – TOXICOLOGICAL INFORMATION

**Inhalation – Acute:** Inhalation may cause mucous membrane irritation, cough, dizziness, drowsiness, headache, nausea, sore throat, vomiting, incoordination, narcosis, decreased blood rate, respiratory failure, central nervous system depression, coma. Human exposure to 400 ppm isopropyl alcohol for 3 to 5 minutes resulted in mild irritation of the eyes, nose and throat; at 800 ppm these symptoms were intensified. Mice exposed to 3250 ppm of isopropyl alcohol for 460 minutes developed ataxia, prostration, and narcosis. The lowest lethal inhalation concentration of isopropyl alcohol in rats is 12,000 ppm for 8 hours.

**Inhalation – Chronic:** Reversible fatty changes were observed in the liver of mice repeatedly exposed to 10, 9000 ppm of isopropyl alcohol in air for about 4 hours per day.

**Skin Contact – Acute:** Skin contact may cause redness and mild irritation. Prolonged exposure may result in absorption of harmful amounts. The dermal LD50 of isopropyl alcohol in rabbits is 12,800 mg/kg.

**Skin Contact – Chronic:** Prolonged skin contact with isopropyl alcohol will cause eczema, dermatitis, and sensitivity. In rare cases, isopropyl alcohol may cause skin sensitization.

**Eye Contact – Acute:** Isopropyl alcohol is an irritant of the eyes. Eye contact may cause redness, pain and blurred vision, corneal burns or eye damage. The application of 0.1 ml of 70 percent isopropyl alcohol in the eye of a rabbit caused conjunctivitis, iritis, and corneal opacity.

**Ingestion – Acute:** Harmful and may be fatal. Ingestion may cause dizziness, drowsiness, gastrointestinal pain, nausea, vomiting, central nervous system depression, decreased blood rate, and in severe cases may cause coma and death. The oral LD50 of isopropyl alcohol in rats is 5,045 mg/kg.

**Ingestion – Chronic:** Rats exposed orally to 6 mg/kg of isopropyl alcohol showed a significantly increased triglyceride level in the liver.

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**Carcinogenicity/Mutagenicity:** Epidemiological studies suggested an association between isopropyl alcohol and paranasal sinus cancer; however, subsequent analysis suggests that the “strong acid” process used to manufacture isopropyl alcohol may be responsible for these cancers. The International Agency for Research on Cancer (IARC) has concluded that the evidence for the carcinogenicity of this process is adequate but that the evidence for isopropyl alcohol itself is inadequate.

**Reproductive Effects:** A two generation reproduction study in rats of isopropyl alcohol's effects showed that the first generation offspring of treated rats had early growth retardation, indicating a fetotoxic but no teratogenic effect.

**Neurotoxicity:** No data available.

**Other Effects:** In experimental animals, pretreatment with isopropyl alcohol enhanced the acute toxicity of carbon tetrachloride. The metabolite acetone may be responsible for this effect.

**Target Organs:** kidneys, liver, eyes, skin, central nervous system, GI tract, respiratory system, lungs.

### SECTION 12 – ECOLOGICAL INFORMATION

The ecological effects of this product are not known. It is strongly advised not to let this product enter the environment.

### SECTION 13 – DISPOSAL CONSIDERATIONS

**Spill/Leak Procedures:** Persons performing clean-up work should wear adequate personal protective equipment and clothing. Eliminate all sources of ignition. Contain and clean up spills immediately with inert absorbent material and place into approved container for disposal. Flush spill area with large volumes of water.

**Cleanup:** Persons performing clean-up work should wear adequate personal protective equipment and clothing. Eliminate all sources of ignition. Contain and clean up spills immediately with inert absorbent material and place into approved container for disposal. Flush spill area with large volumes of water. Attempt to keep spilled material out of sewers, lakes, rivers, streams, and other public waters. Recovered spill material or unused product which cannot be recycled or used is a hazardous waste by characteristic of ignitability as defined by 40 CFR 261. Material that cannot be used or chemically reprocessed and empty containers should be disposed of in accordance with all applicable regulations. Product containers should be thoroughly emptied before disposal.

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**Disposal:** Attempt to keep spilled material out of sewers, lakes, rivers, streams, and other public waters. DO NOT DUMP INTO ANY SEWERS, ON THE GROUND OR INTO ANY BODY

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### SECTION 14 – TRANSPORTATION INFORMATION

**DOT Shipping Description:** see product label or bill of lading

### SECTION 15 – REGULATORY INFORMATION

Any release of the product to the environment may be subject to federal, state, or local reporting requirements. Reportable Quantity: Not applicable. Isopropyl alcohol is a SARA 313 material.

### SECTION 16 – OTHER INFORMATION

**Disclaimer:** The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the user thereof. It is the buyer's responsibility to ensure that its activities comply with federal, state, provincial and local laws.

**Revision Indicator:** April 2011, Revised Section 1 (Updated manufacturer's name)