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MSDS: 0006982
Date: 12/14/2004
Supersedes: 04/18/2000

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: CONAP® AD-1147-1 Adhesive Primer
Synonyms: None
Chemical Family: Resin Mixture
Molecular Formula: Mixture
Molecular Weight: Mixture

CYTEC INDUSTRIES INC., FIVE GARRET MOUNTAIN PLAZA, WEST PATERSON, NEW JERSEY 07424, USA
For Product Information call 1-800/652-6013. Outside the USA and Canada call 1-973/357-3193.
EMERGENCY PHONE: For emergency involving spill, leak, fire, exposure or accident call CHEMTREC: 1-800/424-9300. Outside the USA and Canada call 1-703/527-3887.

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2. COMPOSITION/INFORMATION ON INGREDIENTS

OSHA REGULATED COMPONENTS

Component / CAS No.	% (w/w)	OSHA (PEL):	ACGIH (TLV)	Carcinogen
Isopropanol 67-63-0	30 - 40	400 ppm	200 ppm (TWA) 400 ppm (STEL)	-
Toluene 108-88-3	30 - 40	200 ppm 300 ppm ceiling	50 ppm (TWA) (skin)	-
Ethanol 64-17-5	5 - 10	1000 ppm	1000 ppm (TWA)	-
Phenol 108-95-2	< 5.0	5 ppm (skin)	5 ppm (TWA) (skin)	-
Methanol 67-56-1	< 1.0	200 ppm	200 ppm (TWA) 250 ppm (STEL) (skin)	-
Formaldehyde 50-00-0	< 0.05	0.75 ppm 2 ppm STEL	0.3 ppm (ceiling)	NTP IARC - 1 OSHA ACGIH A2

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

APPEARANCE AND ODOR:

Color: red
Appearance: liquid
Odor: characteristic

STATEMENTS OF HAZARD:

WARNING! FLAMMABLE LIQUID AND VAPOR
CAUSES EYE AND SKIN IRRITATION

CHRONIC HAZARD WARNING:

CONTAINS MATERIAL WHICH CAUSED REPRODUCTIVE DISORDERS IN LABORATORY ANIMAL TESTS
REPRODUCTIVE HAZARD - CONTAINS ETHANOL WHICH MAY CAUSE BIRTH DEFECTS OR OTHER ADVERSE
EFFECTS ON PREGNANCY

Risk depends on duration and level of exposure

POTENTIAL HEALTH EFFECTS**EFFECTS OF EXPOSURE:**

Acute oral (rat) and dermal (rabbit) LD50 values are estimated to be greater than 5,000 mg/kg and greater than 2,000 mg/kg, respectively. The 4-hour inhalation LC50 (rat) value is estimated to be greater than 20 mg/L.

Direct contact with this material may cause moderate eye and skin irritation. Overexposure to vapor may cause respiratory tract irritation and central nervous system depression. Refer to Section 11 for toxicology information on the regulated components of this product.

4. FIRST AID MEASURES**Ingestion:**

Material is not expected to be harmful by ingestion. No specific first aid measures are required.

Skin Contact:

Remove contaminated clothing and shoes without delay. Wash immediately with plenty of water. Do not reuse contaminated clothing without laundering. Get medical attention if pain or irritation persists after washing or if signs and symptoms of overexposure appear.

Eye Contact:

Rinse immediately with plenty of water for at least 15 minutes. Obtain medical advice if there are persistent symptoms.

Inhalation:

Remove to fresh air. If breathing is difficult, give oxygen. Obtain medical advice if there are persistent symptoms.

5. FIRE-FIGHTING MEASURES**Extinguishing Media:**

Use water spray, alcohol foam, carbon dioxide or dry chemical to extinguish fires. Water stream may be ineffective.

Protective Equipment:

Firefighters, and others exposed, wear self-contained breathing apparatus. Wear full firefighting protective clothing. See MSDS Section 8 (Exposure Controls/Personal Protection).

Special Hazards:

Keep containers cool by spraying with water if exposed to fire.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

Where exposure level is known, wear approved respirator suitable for level of exposure. Where exposure level is not known, wear approved, positive pressure, self-contained respirator. In addition to the protective clothing/equipment in Section 8 (Exposure Controls/Personal Protection), wear impermeable boots.

Methods For Cleaning Up:

Remove sources of ignition. Cover spills with some inert absorbent material; sweep up and place in a waste disposal container. Flush spill area with water.

7. HANDLING AND STORAGE

HANDLING

Precautionary Measures: Keep away from heat, sparks and flame. Avoid contact with eyes, skin and clothing. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

Special Handling Statements: None

STORAGE

Areas containing this material should have fire safe practices and electrical equipment in accordance with applicable regulations and/or guidelines. Standards are primarily based on the material's flashpoint, but may also take into account properties such as miscibility with water or toxicity. All local and national regulations should be followed. In the Americas, National Fire Protection Association (NFPA) 30: Flammable and Combustible Liquids Code, is a widely used standard. NFPA 30 establishes storage conditions for the following classes of materials: Class I Flammable Liquids, Flashpoint <37.8 °C. Class II Combustible Liquids, 37.8 °C < Flashpoint <60 °C. Class IIIa Combustible Liquids, 60 °C < Flashpoint < 93 °C. Class IIIb Combustible Liquids, Flashpoint > 93 °C.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures:

Where this material is not used in a closed system, good enclosure and local exhaust ventilation should be provided to control exposure when spraying or curing at elevated temperatures.

Respiratory Protection:

Where exposures are below the established exposure limit, no respiratory protection is required. Where exposures exceed the established exposure limit, use respiratory protection recommended for the material and level of exposure. A full facepiece respirator also provides eye and face protection. Cutting, grinding or sanding of parts fabricated after curing may create respirable dust particles. Respiratory protection appropriate for this dust may be required. Refer to components listed above for potential hazardous components in the dust.

Eye Protection:

Wear eye/face protection such as chemical splash proof goggles or face shield. Eyewash equipment and safety shower should be provided in areas of potential exposure.

Skin Protection:

Avoid skin contact. Wear impermeable gloves and suitable protective clothing. Barrier creams may be used in conjunction with the gloves to provide additional skin protection. Since this product is absorbed through the skin, care must be taken to prevent skin contact and contamination of clothing.

Additional Advice:

Food, beverages, and tobacco products should not be carried, stored, or consumed where this material is in use. Before eating, drinking, or smoking, wash face and hands thoroughly with soap and water. It is recommended that a shower be taken after completion of workshift especially if significant contact has occurred. Work clothing should then be laundered prior to reuse. Street clothing should be stored separately from work clothing and protective equipment. Work clothing and shoes should not be taken home.

9. PHYSICAL AND CHEMICAL PROPERTIES

Color:	red
Appearance:	liquid
Odor:	characteristic
Boiling Point:	Not available
Melting Point:	Not available
Vapor Pressure:	Not available
Specific Gravity:	0.885
Vapor Density:	Not available
Percent Volatile (% by wt.):	Not available
pH:	Not available
Saturation In Air (% By Vol.):	Not available
Evaporation Rate:	Not available
Solubility In Water:	Not available
Volatile Organic Content:	Not available
Flash Point:	~10 °C 50 °F Closed Cup
Flammable Limits (% By Vol):	Not available
Autoignition Temperature:	Not available
Decomposition Temperature:	Not available
Partition coefficient (n-octanol/water):	Not available
Odor Threshold:	See Section 2 for exposure limits.

10. STABILITY AND REACTIVITY

Stability:	Stable
Conditions To Avoid:	None known
Polymerization:	May occur
Conditions To Avoid:	Avoid contact with acids, oxidizing agents, bases or amines and contact with active hydrogen bearing materials.
Hazardous Decomposition Products:	carbon monoxide carbon dioxide oxides of nitrogen phenols formaldehyde butyric acid butyraldehyde acrolein crotonaldehyde sulfur silicon

11. TOXICOLOGICAL INFORMATION

Toxicological information for the product is found under Section 3. HAZARDS IDENTIFICATION. Toxicological information on the regulated components of this product is as follows:

Toluene has acute oral (rat) and dermal (rabbit) LD50 values of 5580 mg/kg and 12124 mg/kg, respectively. The acute 4-hour inhalation (rat, female) LC50 value is 5,060 ppm (19.07 mg/L). Toluene is a severe eye and moderate skin irritant. Inhalation overexposure to toluene vapor can cause headache, fatigue, nausea, and central nervous system depression. Sustained inhalation of high levels of toluene has been shown to cause reversible kidney and liver damage. Subchronic inhalation of toluene vapors have caused permanent hearing loss, decreased learning capabilities and damage to the eyes in laboratory animal tests. Deliberate inhalation of high concentrations of toluene vapor by pregnant women has been shown to adversely affect the fetus. These fetotoxic effects include intrauterine growth retardation and delayed postnatal development. The fetotoxic effects of toluene seen in laboratory animals are similar to those seen in humans. Ingestion of toluene in laboratory animals caused mild gastritis and harmful effects on the respiratory system, kidneys, liver and heart. Ingestion in laboratory animals also caused harmful effects on the central nervous system and death. It has also been reported that subchronic ingestion of toluene caused brain and bladder damage in laboratory animals. Due to synergistic effects, the toxicity of toluene may be enhanced by exposure to n-hexane, benzene, xylene, acetylsalicylic acid and chlorinated hydrocarbons. The literature reports that toluene is an aspiration hazard and that chronic exposure has caused altered immune function in animals. Toluene is a chemical known to the State of California to cause reproductive toxicity.

Isopropanol has acute oral (rat) and dermal (rabbit) LD50 values of 5.0 g/kg and 12.8 g/kg, respectively. The 4-hour inhalation LC50 (rat) for isopropanol is >16,000 ppm (40.86 mg/L). Acute overexposure to isopropanol vapor may cause mild irritation of the eyes and respiratory tract. Chronic overexposure to isopropanol vapors may cause central nervous system depression, headaches, dizziness, nausea, and staggered gait. Liquid isopropanol may cause moderate to severe eye irritation. In laboratory animals studies, isopropanol has produced fetotoxic effects at levels that were maternally toxic and developmental effects at levels that were maternally non-toxic, and inhalation exposures that produced reduced fetal weight at non-maternally toxic levels.

Phenol has an acute oral (rat) LD50 of 0.414 g/kg, and the dermal LD50 of a 90% aqueous solution is 0.669 g/kg in the rabbit. The 4-hour inhalation (rat) LC50 is 316 mg/m³ (0.3 mg/L). Acute exposure to phenol vapor may cause severe eye and respiratory irritation. Phenol may cause skin, eye and mucous membrane burns, and is readily absorbed through the skin or digestive tract. Exposure by any route (oral, dermal, inhalation) can cause effects on the heart and nervous system including changes in heart rate, blood pressure, respiration, as well as tremors and lung disorders, possibly resulting in death. Chronic dermal exposure can cause digestive disturbances, liver and kidney damage. Ingestion of phenol may also cause damage to the liver and muscle fibers and gastrointestinal, circulatory and urinary systems. Phenol produced fetotoxic effects in laboratory animals as well as damage to the thymus and spleen after ingestion. Chronic ingestion caused a decrease in red blood cell numbers and a decrease in immune response. Chronic inhalation in laboratory animals caused liver and kidney damage. Phenol was mutagenic in several in vivo screening tests.

Ethanol has acute oral (rat) and dermal (rabbit) LD50 values of 7060 mg/kg and 20,000 mg/kg, respectively. The 10-hour inhalation LC50 for ethanol in rats is 20,000 ppm (59.4 mg/L/4hr). The literature reports a lower 4-hour acute inhalation (rat) LC50 value of 31,000 mg/m³ (31 mg/l). Inhalation overexposure may cause respiratory tract irritation. Ethanol is a potent teratogen associated with abnormal fetal formation, growth retardation, neurological damage, and behavioral alterations in children with fetal alcohol syndrome. Chronic ingestion of ethanol may cause damage to the liver, heart and gastrointestinal tract. In a dominant lethal assay, male mice treated with ethanol over a three day period showed significant decrease in average litter size along with increased incidence of dead implants. Ethanol is reported to have shown positive results in in vivo and in vitro screening tests for mutagenicity. Direct contact with ethanol may cause moderate eye irritation and mild skin irritation. Ethanol may cause central nervous system depression that causes stupor, coma and eventually death if ingested in excessive quantities. The literature shows that due to synergistic and potentiating effects, the toxicity of ethanol may be enhanced by exposure to halogenated hydrocarbons.

Methanol has acute oral (rat) and dermal (rabbit) LD50 values of >5600 mg/kg and 15800 mg/kg, respectively. The 4-hour inhalation exposure LC50 (rat) for methanol vapor is 64,000 ppm (83.78 mg/L). Acute exposure to methanol vapor may cause headache and gastrointestinal irritation. Chronic or extreme inhalation exposure to vapors can cause blurred vision, serious eye damage, central nervous depression and death. Ingestion and inhalation of methanol has caused blindness in humans. Ingestion can also cause harmful effects on the central nervous system and gastrointestinal systems and can lead to death in extreme cases. Absorption of methanol can cause systemic toxicity. It has been reported that chronic skin absorption of methanol has caused ocular disturbances and blindness. Methanol has also been reported to be a teratogen and fetotoxin in laboratory animals and has demonstrated mutagenic activity, in vivo, in mammalian cells. Methanol may cause moderate eye and skin irritation.

Formaldehyde has oral (rat) and dermal (rabbit) LD50 values of 100 mg/kg and 270 mg/kg, respectively. The LC50 following a 4-hour inhalation exposure to rats is 250-478 ppm (0.31-0.59 mg/l). Irritation of the nose and throat has been observed in people exposed to formaldehyde vapor levels in excess of 1 ppm. Normal breathing may be seriously impaired at levels above 10 ppm and serious lung damage can occur at levels exceeding 50 ppm. Formaldehyde has been reported to cause pulmonary hypersensitivity in some individuals who were exposed to concentrations known to cause irritation; however, no pulmonary sensitization has been demonstrated in laboratory animal studies. Formaldehyde solutions can cause severe eye and moderate skin irritation. Repeated skin exposure to solutions of 2% or more formaldehyde has caused allergic skin reactions. Formaldehyde was found to be weakly mutagenic in a number of in vitro genotoxicity tests and positive in certain in vivo screening tests for mutagenicity. Formaldehyde did not cause birth defects in rats inhaling concentrations up to 10 ppm. However, a study using higher levels did show a slight but statistically significant reduction in male fetal body weight. Lifetime inhalation of formaldehyde vapor at concentrations above 5 ppm for 6 hours per day, caused nasal tumors in laboratory animals. The International Agency for Research on Cancer (IARC) has classified formaldehyde as a Group 1 (known) human carcinogen based on epidemiological evidence linking formaldehyde exposure to the occurrence of nasopharyngeal cancer, a rare type of cancer. IARC also found limited evidence of cancer of the nasal cavity and paranasal sinuses and insufficient evidence for an association between formaldehyde and leukemia. Inhalation caused liver and kidney damage in laboratory animal tests.

California Proposition 65 Warning (applicable in California only) - This product contains (a) chemical(s) known to the State of California to cause cancer and birth defects or other reproductive harm.

12. ECOLOGICAL INFORMATION

The ecological assessment for this material is based on an evaluation of its components. This material is not classified as dangerous for the environment.

13. DISPOSAL CONSIDERATIONS

The information on RCRA waste classification and disposal methodology provided below applies only to the Cytec product, as supplied. If the material has been altered or contaminated, or it has exceeded its recommended shelf life, the guidance may be inapplicable. Hazardous waste classification under federal regulations (40 CFR Part 261 et seq) is dependent upon whether a material is a RCRA `listed hazardous waste` or has any of the four RCRA `hazardous waste characteristics`. Refer to 40 CFR Part 261.33 to determine if a given material to be disposed of is a RCRA `listed hazardous waste`; information contained in Section 15 of this MSDS is not intended to indicate if the product is a `listed hazardous waste`. RCRA Hazardous Waste Characteristics: There are four characteristics defined in 40 CFR Section 261.21-61.24: Ignitability, Corrosivity, Reactivity, and Toxicity. To determine Ignitability, see Section 9 of this MSDS (flash point). For Corrosivity, see Sections 9 and 14 (pH and DOT corrosivity). For Reactivity, see Section 10 (incompatible materials). For Toxicity, see Section 2 (composition). Federal regulations are subject to change. State and local requirements, which may differ from or be more stringent than the federal regulations, may also apply to the classification of the material if it is to be disposed. Cytec encourages the recycle, recovery and reuse of materials, where permitted, as an alternate to disposal as a waste. Cytec recommends that organic materials classified as RCRA hazardous wastes be disposed of by thermal treatment or incineration at EPA approved facilities. Cytec has provided the foregoing for information only; the person generating the waste is responsible for determining the waste classification and disposal method.

14. TRANSPORT INFORMATION

This section provides basic shipping classification information. Refer to appropriate transportation regulations for specific requirements.

US DOT

Proper Shipping Name: Adhesives
 Hazard Class: 3
 Packing Group: II
 UN/ID Number: UN1133
 Transport Label Required: Flammable Liquid
 Hazardous Substances:

<u>Component / CAS No.</u>	<u>Reportable Quantity of Product (lbs)</u>
Toluene	2500.0
Phenol	20000.0

TRANSPORT CANADA

Proper Shipping Name: Adhesives
 Hazard Class: 3
 Packing Group: II
 UN Number: 1133
 Transport Label Required: Flammable Liquid

ICAO / IATA

Proper Shipping Name: Adhesives
 Hazard Class: 3
 Packing Group: II
 UN Number: 1133
 Transport Label Required: Flammable Liquid
 Packing Instructions/Maximum Net Quantity Per Package:
 Passenger Aircraft: 305; 5L
 Cargo Aircraft: 307; 60L

IMO

Proper Shipping Name: Adhesives
 Hazard Class: 3
 UN Number: 1133
 Packing Group: II
 Transport Label Required: Flammable Liquid

15. REGULATORY INFORMATION

INVENTORY INFORMATION

United States (USA): All components of this product are included on the TSCA Inventory in compliance with the Toxic Substances Control Act, 15 U. S. C. 2601 et. seq.

Canada: Components of this product have been reported to Environment Canada in accordance with Sections 66 and/or 81 of the Canadian Environmental Protection Act (1999), and are included on the Domestic Substances List.

European Union (EU): All components of this product are included in the European Inventory of Existing Chemical Substances (EINECS) in compliance with Council Directive 67/548/EEC and its amendments.

Australia: All components of this product are included in the Australian Inventory of Chemical Substances (AICS).

OTHER ENVIRONMENTAL INFORMATION

The following components of this product may be subject to reporting requirements pursuant to Section 313 of CERCLA (40 CFR 372), Section 12(b) of TSCA, or may be subject to release reporting requirements (40 CFR 307, 40 CFR 311, etc.) See Section 13 for information on waste classification and waste disposal of this product.

Component / CAS No.	%	TPQ(lbs)	RQ(lbs)	S313	TSCA 12B
Toluene 108-88-3	30 - 40	NONE	1000	Yes	No
Phenol 108-95-2	< 5.0	NONE	1000	Yes	No
Methanol 67-56-1	< 1.0	NONE	5000	Yes	No
Formaldehyde 50-00-0	< 0.05	500	100	Yes	No

PRODUCT HAZARD CLASSIFICATION UNDER SECTION 311 OF SARA

- Acute
- Chronic
- Fire

16. OTHER INFORMATION

NFPA Hazard Rating (National Fire Protection Association)

Health: 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

Fire: 3 - Liquids and solids that can be ignited under almost all ambient temperature conditions.

Reactivity: 0 - Materials that in themselves are normally stable, even under fire exposure conditions.

Reasons For Issue: Revised Section 2
Revised Section 11

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