



Technology ahead of its time™

MSDS: 0000143
Date: 10/21/2004
Supersedes: 08/26/2004

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: URAC® 185 Adhesive Resin
Synonyms: None
Chemical Family: Urea-formaldehyde resin; CAS No. 9011-05-6
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.

® indicates trademark registered in the U.S. Outside the U.S., mark may be registered, pending or a trademark. Mark is or may be used under license.

2. COMPOSITION/INFORMATION ON INGREDIENTS

OSHA REGULATED COMPONENTS

Component / CAS No.	% (w/w)	OSHA (PEL):	ACGIH (TLV)	Carcinogen
Furfuryl alcohol 98-00-0	26.0	50 ppm	10 ppm (TWA) 15 ppm (STEL) (skin)	-
Formaldehyde 50-00-0	4.0	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: yellow
Appearance: viscous liquid
Odor: formaldehyde

STATEMENTS OF HAZARD:

WARNING! VAPOR IRRITATING
HARMFUL IF ABSORBED THROUGH SKIN
CAUSES EYE IRRITATION
MAY CAUSE ALLERGIC SKIN REACTION

CHRONIC HAZARD WARNING:
POTENTIAL CANCER HAZARD - CONTAINS FORMALDEHYDE
Risk of cancer depends on duration and level of exposure

POTENTIAL HEALTH EFFECTS

EFFECTS OF EXPOSURE:

The estimated acute oral (rat) LD50 and acute dermal (rabbit) LD50 and 4-hour inhalation (rat) LC50 values for this material are 850 mg/kg, 690 mg/kg and 3.9 mg/l respectively.

Direct contact with this material may cause moderate eye and skin irritation. Repeated or prolonged dermal contact may cause allergic skin reactions. Inhalation overexposure may cause irritation of the respiratory tract and eyes. Refer to Section 11 for toxicology information on the regulated components of this product.

4. FIRST AID MEASURES

Ingestion:

If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.

Skin Contact:

Wash immediately with plenty of water and soap. Remove contaminated clothing and shoes without delay. Obtain medical attention. Do not reuse contaminated clothing without laundering. Destroy or thoroughly clean shoes before reuse.

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, carbon dioxide or dry chemical.

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:

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: Avoid breathing vapor. Avoid contact with eyes. Avoid prolonged or repeated contact with skin. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

Special Handling Statements: None

STORAGE

None

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.

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.

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. 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:	yellow
Appearance:	viscous liquid
Odor:	formaldehyde
Boiling Point:	170 °C 338 °F (value for furfuryl alcohol)
Melting Point:	-28 °C -18 °F (value for furfuryl alcohol)
Vapor Pressure:	Not available
Specific Gravity:	1.28
Vapor Density:	3.4(air = 1)(value for furfuryl alcohol)
Percent Volatile (% by wt.):	~30
pH:	Not available

Saturation In Air (% By Vol.):	Not available
Evaporation Rate:	>1(Butyl acetate = 1)
Solubility In Water:	Appreciable
Volatile Organic Content:	Not available
Flash Point:	>93 °C 200 °F Closed Cup
Flammable Limits (% By Vol):	Lower: 1.8 Upper: 16.3(values for furfuryl alcohol)
Autoignition Temperature:	391 °C 736 °F
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:	None known
Materials To Avoid:	Furfuryl alcohol can react violently with strong acids; strong oxidizing agents.
Hazardous Decomposition Products:	carbon monoxide carbon dioxide formaldehyde oxides of nitrogen ammonia hydrogen cyanide

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:

Furfuryl alcohol has acute oral (rat) and dermal (rabbit) LD50 values of 88 mg/kg and 400 mg/kg, respectively. The 4-hour inhalation LC50 (rat) value is 233 ppm (0.93 mg/L). Direct contact with furfuryl alcohol can cause moderate eye and mild skin irritation. Inhalation overexposure to furfuryl alcohol vapor may cause dizziness, nausea, and irritation or injury of the respiratory tract.

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.

12. ECOLOGICAL INFORMATION

No aquatic LC50, BOD, or COD data available.

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.` 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: Toxic liquid, organic, n.o.s.
Hazard Class: 6.1
Packing Group: III
UN/ID Number: UN2810
Transport Label Required: Toxic
Technical Name (N.O.S.): Contains furfuryl alcohol, formaldehyde
Hazardous Substances:

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

Comments: Hazardous Substances/Reportable Quantities - DOT requirements specific to Hazardous Substances only apply if the quantity in one package equals or exceeds the product reportable quantity.

TRANSPORT CANADA

Proper Shipping Name: Toxic liquid, organic, n.o.s.
Hazard Class: 6.1
Packing Group: III
UN Number: 2810
Transport Label Required: Toxic
Technical Name (N.O.S.): Contains furfuryl alcohol

ICAO / IATA

Proper Shipping Name: Toxic liquid, organic, n.o.s.
Hazard Class: 6.1
Packing Group: III
UN Number: 2810
Transport Label Required: Toxic
Packing Instructions/Maximum Net Quantity Per Package:
Passenger Aircraft: 611; 60L
Cargo Aircraft: 618; 220L
Technical Name (N.O.S.): Contains furfuryl alcohol

IMO

Proper Shipping Name: Toxic liquid, organic, n.o.s.
Hazard Class: 6.1
UN Number: 2810
Packing Group: III
Transport Label Required: Toxic
Technical Name (N.O.S.): Contains furfuryl alcohol

15. REGULATORY INFORMATION

INVENTORY INFORMATION

United States (USA): All components of this product are included on the TSCA Chemical Inventory or are not required to be listed on the TSCA Chemical Inventory.

Canada: All components of this product are included on the Domestic Substances List (DSL) or are not required to be listed on the DSL.

European Union (EU): All components of this product are included on the European Inventory of Existing Chemical Substances (EINECS) or are not required to be listed on EINECS.

Australia: All components of this product are included in the Australian Inventory of Chemical Substances (AICS). All components of this product are included in the Australian Inventory of Chemical Substances (AICS) or are not required to be listed on AICS.

China: All components of this product are included on the Chinese inventory or are not required to be listed on the Chinese inventory.

Japan: All components of this product are included on the Japanese (ENCS) inventory or are not required to be listed on the Japanese inventory.

Korea: All components of this product are included on the Korean (ECL) inventory or are not required to be listed on the Korean inventory.

Philippines: All components of this product are included on the Philippine (PICCS) inventory or are not required to be listed on the Philippine inventory.

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
Formaldehyde 50-00-0	4.0	500	100	Yes	No

PRODUCT HAZARD CLASSIFICATION UNDER SECTION 311 OF SARA

- Acute
- Chronic

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: 1 - Materials that must be preheated before ignition can occur.

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

Reasons For Issue: Revised Section 2
Revised Section 3
Revised Section 11

Randy Deskin, Ph.D., DABT +1-973-357-3100

This information is given without any warranty or representation. We do not assume any legal responsibility for same, nor do we give permission, inducement, or recommendation to practice any patented invention without a license. It is offered solely for your consideration, investigation, and verification. Before using any product, read its label.