

MATERIAL SAFETY DATA SHEET

Product name: CPS 2-Comp. Adhesive, Component B
Last revised date: 2004-03-29

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Print date: 2004-03-29
SDS-ID: US-D/2.0

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

Product name: CPS 2-Comp. Adhesive, Component B
Application: Hardener for CPS Screen Adhesive, for Mesh-stretching. Container size: 0.1kg, 0.5kg
Supplier: Autotype Americans, Inc.
2050 Hammond Drive
Schaumburg, IL 60173-3810
Emergency phone no.: 1-800-424-9300
Tel: 1-847-303-5900

2. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture of: prepolymeric isocyanates, volatile isocyanate and organic solvent.

This product is covered by the OSHA Hazard Communication Rule 29, CFR 1910.1200

The following substances shall be indicated according to legislation:

Ethyl acetate, CAS-No. 141-78-6: 60-100%
Toluene-2,4-diisocyanate, CAS-No. 584-84-9: 0.4%

3. HAZARDS IDENTIFICATION

Physical and Chemical Hazards: The product is highly flammable.

Human health: Irritating to eyes. Repeated exposure may cause skin dryness or cracking. Vapours may cause drowsiness and dizziness. Vapours may irritate the respiratory system and cause coughing, asthmatic breathing and breathlessness. By frequent inhalation of vapours, respiratory allergy to isocyanates may develop. May cause allergic skin disorders in sensitive individuals.

This product contains no ingredient listed on the OSHA carcinogen list.
This product contains ingredient listed on following carcinogenic lists:
IARC Cancer Review: Group 2B for Toluene-2,4-diisocyanate.
National Toxicology Program (NTP): Group R for Toluene-2,4-diisocyanate.

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4. FIRST-AID MEASURES

Burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital.

Inhalation: Move injured person into fresh air and keep person calm under observation. If necessary, seek hospital and bring along these instructions.
In case of persistent throat irritation or coughing: Seek medical attention and bring along these instructions.

Skin contact: Rinse skin immediately. Thoroughly rub with liquid soap and wash with lukewarm water. In case of eczema or other skin disorders: Seek medical attention and bring along these instructions.

Eye contact: Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyelids widely. If irritation persists: Continue flushing during transport to hospital. Bring along these instructions.

Ingestion: Immediately rinse mouth and drink plenty of water. Keep person under observation. If uncomfortable: Seek hospital and bring along these instructions. Do not induce vomiting.

5. FIRE-FIGHTING MEASURES

Extinguishing media: Extinguish with carbon dioxide or dry powder.

Specific hazards: In case of fire, very toxic gases/vapours (e.g. NO_x, isocyanates) may be formed. The explosion limits and the flash point are stated in point 9.

Protective equipment for fire-fighters: Selection of respiratory protection for fire fighting: follow the general fire precautions indicated by the workplace.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Avoid any exposure. Do not smoke or use open fire or other sources of ignition. Follow precautions for safe handling described in this safety data sheet. For personal protection, see point 8.

Environmental precautions: Avoid discharge into drains, water courses or onto the ground.

Methods for cleaning up: Absorb spillage with non-combustible, absorbing material. Collect spillage in metal/plastic container with tight-fitting lid, with indication of the contents. For waste disposal, see point 13.

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7. HANDLING AND STORAGE

Safe handling advice: Avoid any exposure. Observe good industrial hygiene practices. Good personal hygiene is necessary. Wash hands and contaminated areas with water and soap before leaving the work site. Change contaminated clothing.

Technical measures: Work practice should minimise contact. Technical aids: Use disposable equipment (rags, brushes, spatulas, putty knives, etc.), if possible. Do not smoke or use open fire or other sources of ignition. Do not eat, drink or smoke when using the product.

Technical precautions: Mechanical ventilation may be required. Provide easy access to water supply or an emergency shower.

Technical measures for safe storage: Follow rules for flammable liquids.

Storage conditions: Store in tightly closed original container in a well-ventilated place. This product is sensitive to frost and should be protected from freezing.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering measures: Provide adequate ventilation. Observe Occupational Exposure Limits and minimize the risk of inhalation of vapours.

<u>Chemical name:</u>	<u>Exposure limits:</u>	<u>Type:</u>	<u>Notes:</u>	<u>References:</u>
Toluene-2,4-di-isocyanate	0.02ppm 0.14mg/m ³	CLV	-	OSHA
Toluene-2,4-diisocyanate	0,005ppm 0,02ppm	TWA STEL	A4	ACGIH
Ethyl acetate	400ppm 1400mg/m ³	TWA	-	ACGIH

Respiratory equipment: Use air-supplied respirator.

Hand protection: Wear protective gloves. Use disposable gloves protecting against isocyanates along with cotton gloves closest to the skin. Be aware that the liquid may penetrate the gloves. Frequent change is advisable. The product consists of substances for which it is not possible to suggest a common suitable glove material. Therefore, a suitable type of gloves cannot be recommended without knowing the actual usage of the product. The most suitable glove must be chosen in collaboration with the supplier of gloves, who can inform about the breakthrough time of the glove material.

Eye protection: Not relevant, as full-mask shall be used.

Hygiene measures: Remove contaminated clothing and wash the skin thoroughly with soap and water after work. When using do not eat, drink or smoke. Private clothes and working clothes should be kept separately. Personal protection may not be worn during meal breaks. Personal protection must be kept separate from other clothes.

Environmental exposure controls: Not available.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: colourless liquid
Odour: of solvents
pH: not available
Boiling point: 171°F
Flash point: 25°F
Explosive properties: 2.1-11.5 vol%
Vapour pressure: not available
Relative density: 1.02
Solubility: Approx. 10%, reacts with water
Other data: kinematic viscosity at 104°F: <7 mm²/s
Evaporation rate (BuAc=100): 494
VOC (Volatile Organic Substances, ASTM D2369-01): 1200 g/l

10. STABILITY AND REACTIVITY

Stability: Stable under normal temperature conditions.
Curing time: More than 24 hours at 68°F.
Harmful vapours may be liberated during curing. This product is sensitive to frost and should be protected from freezing.

Conditions/
materials to avoid: Water, moisture. Heating.

Hazardous
decomposition products: None at ambient temperatures. In case of fire, very toxic gases/vapours (e.g. NO_x, isocyanates) may be formed.

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11. TOXICOLOGICAL INFORMATION

Inhalation: Vapours irritate the respiratory system, and may cause coughing and difficulties in breathing. In high concentrations, vapours are narcotic and may cause headache, fatigue, dizziness and nausea. By frequent inhalation of vapours, respiratory allergy to isocyanates may develop.
LC50 (inhalation, rat): 200 gm/m3 (RTECS) for ethyl acetate.

Skin contact: Degreasing. Prolonged or frequent contact may cause redness, itching and eczema/chaps. The product contains a small amount of sensitizing substance which may provoke an allergic reaction among sensitive individuals.

Eye contact: Irritating and may cause redness and pain.

Ingestion: May irritate and cause malaise.
LD50 (oral, rat): 5620 mg/kg (RTECS) for ethyl acetate.

Specific effects: Organic solvents may be absorbed into the body by inhalation and ingestion and cause permanent damage to the nervous system, including the brain.
This product contains no ingredient listed on the OSHA carcinogen list.
This product contains ingredient listed on following carcinogenic lists:
IARC Cancer Review: Group 2B for Toluene-2,4-diisocyanate.
National Toxicology Program (NTP): Group R for Toluene-2,4-diisocyanate.

12. ECOLOGICAL INFORMATION

Mobility: The product contains volatile organic compounds (VOC) which will evaporate easily from all surfaces. The product hardens to a solid immobile substance.

Degradability: The product reacts with water to form a solid insoluble reaction product which is non-degradable, according to information available.

Ecotoxicity: There are no data on the ecotoxicity of this product.

Bioaccumulative potential: No data available on bioaccumulation.

Other adverse effects: None known.

13. DISPOSAL CONSIDERATIONS

Dispose of waste and residues according to agreement with local authorities. This product, if discarded, may be considered a characteristic hazardous waste under RCRA (ignitable waste, D001). Rags and the like, moistened with flammable liquids, must be discarded into designated fireproof bucket.

Waste from residues: Ethyl acetate, CAS-No. 141-78-6: RCRA: Waste number U112
Toluene-2,4-diisocyanate, CAS-No. 584-84-9: RCRA: Waste number U223

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14. TRANSPORT INFORMATION

UN-number: 1133

Proper shipping name: ADHESIVES

Sea (IMDG):

Class: 3

PG: II

MP: No

EmS: F-E , S-D

MFAG: 1

Inland waterways: To be handled locally.

Air (ICAO/IATA):

Class: 3

PG: II

Land (RID/ADR):

Class: 3

Packing group II

Primary risk label 3

Subsidiary risk label -

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15. REGULATORY INFORMATION

All chemicals included in the product are TSCA listed.

Toluene-2,4-diisocyanate, CAS-No. 584-84-9:
SARA Section 313: Form R reporting required for 0.1% de minimis concentration.
SARA Section 302: RQ = 100 pounds
CERCLA: Final RQ = 100 pounds (45.4 kg).

Ethyl acetate, CAS-No. 141-78-6:
CERCLA: Final RQ = 5000 pounds (2270 kg).

NFPA Rating: Health:2 Fire:3 Reactivity:1 Other:-

Specific provisions: National specific regulation may apply.

National regulation: The following lists have been checked:

Threshold Limit Values (2003), ACGIH, by the American Conference on Governmental Industrial Hygienists.

The Code of Federal Regulation, Title 29, part 1910. Occupational Safety and Health Standards, Air contaminants.

U.S. Department of health and human services: 2002 - Report on Carcinogens - 10th Ed.

International Agency for Research on Cancer (IARC): IARC Monographs on the Evaluation of Carcinogenic Risks to Humans. Lyon: IARC, World Health Organization, 1972-2000.

The Code of Federal Regulation, Title 40, part 261.33. Identification and listing of hazardous waste.

The Code of Federal Regulation. Title 40, part 355.50. Emergency Planning and Notification

The Code of Federal Regulation. Title 40, part 302.4. Designation, Reportable Quantities, and Notification.

The Code of Federal Regulation. Title 40, part 68.130. Chemical Accident Prevention Provisions.

The Code of Federal Regulation. Title 40, part 372.65. Toxic Chemical Release Reporting: Community Right to Know.

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16. OTHER INFORMATION

The user must be instructed in the proper work procedure and be familiar with the contents of these instructions.

The following sections contain revisions or new statements: 1.

Wording of Risk Phrases:

R11	Highly flammable.
R20	Harmful by inhalation.
R26	Very toxic by inhalation.
R36	Irritating to eyes.
R36/37/38	Irritating to eyes, respiratory system and skin.
R40	Limited evidence of a carcinogenic effect.
R42	May cause sensitisation by inhalation.
R42/43	May cause sensitisation by inhalation and skin contact.
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R66	Repeated exposure may cause skin dryness or cracking.
R67	Vapours may cause drowsiness and dizziness.

The information on this data sheet represents our current data and is reliable provided that the product is used under the prescribed conditions and in accordance with the application specified on the packaging and/or in the technical guidance literature. Any other use of the product which involves using the product in combination with any other product or any other process is the responsibility of the user.

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