

MATERIAL SAFETY DATA SHEET

Product name: CPS 2-comp. Screen Adhesive, Component A
Last revised date: 2004-01-14

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Print date: 2004-01-14
SDS-ID: US-D/1.0

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

Product name: CPS 2-comp. Screen Adhesive, Component A
Application: Screen Adhesive for Mesh-stretching. Container size: 1 kg, 5 kg
Supplier: Autotype Americans, Inc. Emergency phone no.: 1-800-424-9300
2050 Hammond Drive
Schaumburg, IL 60173-3810
Tel: 1-847-303-5900

2. COMPOSITION/INFORMATION ON INGREDIENTS

The product contains: organic solvent and polyester resin.

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

The following substances shall be indicated according to legislation:

Methylene chloride, CAS-No. 75-09-2: 60-100%

3. HAZARDS IDENTIFICATION

Human health: May irritate eyes and skin. The product contains components which may penetrate skin. In high concentrations, vapours are narcotic and may cause headache, fatigue, dizziness and nausea. Inhalation of vapour may cause lung oedema. Contains a substance which may be potentially carcinogenic.

This product contains ingredient listed on following carcinogenic lists:
IARC Cancer Review: Group 2B for Dichloromethane
National Toxicology Program (NTP): Group R for Dichloromethane.
Occupational Safety and Health Standards (OSHA): Methylene chloride is possibly carcinogenic to humans.

4. FIRST-AID MEASURES

Inhalation: Move injured person into fresh air and keep person calm under observation. If uncomfortable: Seek hospital and bring along these instructions. If inhalation of vapours is suspected, move person into fresh air and call an ambulance. Be aware that symptoms of lung oedema (shortness of breath) may develop up to 24 hours after exposure. Immediately call an ambulance.

Skin contact: Remove contaminated clothing immediately and wash skin with soap and water.

Eye contact: Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyelids widely. If irritation persists: Seek medical attention and 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. If vomiting occurs, keep head low.

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5. FIRE-FIGHTING MEASURES

Extinguishing media: Extinguish with alcohol-resistant foam, carbon dioxide or dry powder. Cool containers exposed to heat with water spray and remove container, if no risk is involved.

Specific hazards: During fire, toxic and corrosive vapours may be formed. The explosion limits and the flash point are stated in point 9.

Protective equipment for fire-fighters: Use air-supplied respirator during fire fighting.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Avoid any exposure. For personal protection, see point 8.

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

Methods for cleaning up: Dam and absorb spillage with sand, sawdust or other absorbent. Collect spillage in metal/plastic container with tight-fitting lid, with indication of the contents. For waste disposal, see point 13.

7. HANDLING AND STORAGE

Safe handling advice: Avoid any exposure. Observe good industrial hygiene practices.

Technical measures: Use work methods which minimise spreading of vapours, dust, smoke, aerosols, splashes etc. to the extent technically possible. Keep the workplace clean. Do not eat, drink or smoke when using the product. Do not store tobacco, food or beverage in work rooms or areas where the product is used. Follow the demands in OSHA Communication Rule 29, CFR 1910.1052 when working with the product.

Technical precautions: Mechanical ventilation required.

Technical measures for safe storage: No special precautions.

Storage conditions: Store in tightly closed original container in a well-ventilated place. Store in closed original container at temperatures between 41°F and 77°F.

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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>
Methylene chloride	25ppm	TWA, PEL		OSHA
Dichloromethane	50ppm 174mg/m ³	TWA	A3, BEI	ACGIH

Respiratory equipment: Use air-supplied respirator.

Hand protection: Wear protective gloves. 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.

Skin protection: Wear special protective clothing.

Hygiene measures: Wash hands after handling. When using do not eat, drink or smoke. Change contaminated clothing. Do not store tobacco, food or beverage in work rooms or areas where the product is used. Personal protection may not be worn during meal breaks. Personal protection must be kept separate from other clothes.

Environmental exposure controls: Not available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: blue thick liquid
Odour: of solvents
pH: not relevant
Boiling point: not relevant
Flash point: not relevant
Explosive properties: not relevant
Vapour pressure: 340 mmHg
Relative density: 1
Solubility: partly soluble in water
Other data: kinematic viscosity at 104°F: >7 mm²/s
Evaporation rate (BuAc=100): 1450

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10. STABILITY AND REACTIVITY

Stability: Stable under normal temperature conditions.
Curing time for the mixture: 10-15 min.

Conditions/
materials to avoid: Heating. Oxidizing agents.

Hazardous
decomposition products: None in particular.

11. TOXICOLOGICAL INFORMATION

Inhalation: Inhalation of vapour may cause lung oedema. Vapours have a narcotic effect and may cause headache, fatigue, dizziness and nausea.
LC50 (inhalation, rat): 52 gm/m3 (RTECS) for methylene chloride.

Skin contact: May irritate. Prolonged contact may cause dryness of the skin. Contains organic solvents which may penetrate the skin.

Eye contact: May irritate and cause redness and pain.

Ingestion: May cause irritation. May be absorbed in the body and cause dizziness, nausea and vomiting.
LD50 (oral, rat) = 1600 mg/kg (RTECS) for methylene chloride.

Specific effects: Frequent inhalation of even small concentrations may cause irritability, fatigue, memory failure and in time permanent damage to the nervous system, including the brain, and possibly liver and kidneys, too. Contains a substance/a group of substances which may cause cancer.

This product contains ingredient listed on following carcinogenic lists:
IARC Cancer Review: Group 2B for Dichloromethane
National Toxicology Program (NTP): Group R for Dichloromethane.
Occupational Safety and Health Standards (OSHA): Methylene chloride is possibly carcinogenic to humans.

12. ECOLOGICAL INFORMATION

Mobility: The product contains volatile organic compounds (VOC) which will evaporate easily from all surfaces.

Degradability: The product hardens to a heavily degradable mass.

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

Bioaccumulative
potential: No data available on bioaccumulation.

Other adverse effects: None known.

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13. DISPOSAL CONSIDERATIONS

Dispose of waste and residues according to agreement with local authorities.

Methylene chloride, CAS-No. 75-09-2: RCRA: Waste number U080

14. TRANSPORT INFORMATION

UN-number: 1593

Proper shipping name: DICHLOROMETHANE, SOLUTION

Sea (IMDG):

Class: 6.1

PG: III

MP: No

EmS: F-A, S-A

MFAG: 1

Inland waterways: To be handled locally.

Air (ICAO/IATA):

Class: 6.1

PG: III

Land (RID/ADR):

Class: 6.1

Packing group III

Primary risk label 6.1

Subsidiary risk label -

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15. REGULATORY INFORMATION

TSCA: All chemicals included in the product are TSCA listed.

Methylene chloride, CAS-No. 75-09-2:
CERCLA: Final RQ = 1000 pounds (454 kg).
SARA Section 313: Form R reporting required for 0.1% de minimis concentration.

NFPA Rating: Health:3 Fire:1 Reactivity:0 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.

The Code of Federal Regulation, Title 29, part 1910.1052. Methylene chloride.

16. OTHER INFORMATION

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

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.

Made by DANISH TOXICOLOGY CENTRE, Kogle Allé 2, DK-2970 Hørsholm, Denmark. Telephone +45 45 76 20 55 Telefax +45 45 76 24 55

Customer No: 20402
Filing No: -40033

MATERIAL SAFETY DATA SHEET

Product name: CPS 2-comp. Screen Adhesive, Component B
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1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

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

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.
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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.
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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.

Contains isocyanates. See information supplied by the manufacturer.

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.

16. OTHER INFORMATION

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

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.

Made by DANISH TOXICOLOGY CENTRE, Kogle Allé 2, DK-2970 Hørsholm, Denmark. Telephone +45 45 76 20 55 Telefax +45 45 76 24 55

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