

MATERIAL SAFETY DATA SHEET

Product name: CPS Screen Adhesive MF (Component A) Page: 1/6
Last revised date: 2004-01-14 Print date: 2004-01-14
SDS-ID: US-D/7.0

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

Product name: CPS Screen Adhesive MF (Component A)
Application: Screen Adhesive for Mesh-stretching. Container size: 1l, 5l
Supplier: Autotype Americas, 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: polyurethane and solvents.

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

The following substances shall be indicated according to legislation:

Acetone, CAS-No. 67-64-1: 60-100 %
Ethyl acetate, CAS-No. 141-78-6: 10-30 %

3. HAZARDS IDENTIFICATION

Physical and Chemical Hazards: The product is highly flammable.

Human health: Irritating to eyes. Degreasing to skin. Prolonged skin contact may cause redness and irritation. The product contains organic solvents. In high concentrations, vapours are narcotic and may cause headache, fatigue, dizziness and nausea. Frequent inhalation of even small concentrations may cause irritability, fatigue and memory failure and eventually permanent damage to the nervous system, including the brain. This product contains no ingredient listed on the NTP, OSHA or IARC carcinogen lists.

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 uncomfortable: Seek hospital and bring along these instructions.

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: 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.

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5. FIRE-FIGHTING MEASURES

Extinguishing media: Extinguish with 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, health hazardous gases may be formed.

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 inhalation of vapours and contact with skin and eyes. 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. For waste disposal, see point 13.

7. HANDLING AND STORAGE

Safe handling advice: Observe good industrial hygiene practices. Avoid inhalation of vapours and contact with skin and eyes.

Technical measures: Work practice should minimise contact. Do not smoke or use open fire or other sources of ignition.

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. Keep at temperatures between 40°F and 85°F. Avoid contact with oxidizing agents.

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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>
Acetone	500	TWA	A4	ACGIH
	750ppm 50mg/L	Urine	End of shift	ACGIH
Acetone	1000ppm 2400mg/m ³	TWA	-	OSHA
Ethyl acetate	400ppm 1400mg/m ³	TWA	-	ACGIH
Ethyl acetate	400ppm 1400mg/m ³	TWA	-	OSHA

Respiratory equipment: In case of inadequate ventilation: Use respiratory equipment with gas filter, type AX.

Hand protection: Wear protective gloves. Be aware that the liquid may penetrate the gloves. Frequent change is advisable. Suitable gloves can be recommended by the glove supplier.

Eye protection: Risk of splashes: Wear goggles/face shield.

Hygiene measures: Wash hands after handling.

Environmental exposure controls: No information available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: green thick liquid
Odour: of solvents
pH: not relevant
Boiling point: 133-230°F
Flash point: -0.4°F
Explosive properties: 1.3-12.5 vol%
Vapour pressure: 180 mm Hg
Relative density: 0.9
Solubility: partly soluble in water
Soluble in: organic solvents
Other data: Autoignition temperature: > 752°F
Evaporation rate (BuAc=100): 600
VOC (Volatile Organic Substances, ASTM D2369-01): 150 g/l

10. STABILITY AND REACTIVITY

Stability: Stable under normal temperature conditions.
Curing time for the mixture: 25-35 min.

Conditions/ materials to avoid: Avoid contact with oxidizing agents.

Hazardous decomposition products: None under normal conditions.

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11. TOXICOLOGICAL INFORMATION

Inhalation: Vapours may irritate throat and respiratory system and cause coughing. In high concentrations, vapours are narcotic and may cause headache, fatigue, dizziness and nausea.
LC50 (inhalation, rat): 200 gm/m3 (RTECS) for ethyl acetate.
LC50 (inhalation, rat): 50100 mg/m3/8H (RTECS) for acetone.

Skin contact: Degreasing. Prolonged contact may cause redness and irritation.

Eye contact: Irritating and may cause redness and pain.

Ingestion: Irritating. May be absorbed in the body and cause dizziness, nausea and vomiting.
LD50 (oral, rat): 5620 mg/kg (RTECS) for ethyl acetate.
LD50 (oral, rat): 5800 mg/kg (RTECS) for acetone.

Specific effects: Frequent inhalation of even small concentrations may cause irritability, fatigue and memory failure and eventually permanent damage to the nervous system, including the brain.
This product contains no ingredient listed on the NTP, OSHA or IARC carcinogen lists.

12. ECOLOGICAL INFORMATION

Mobility: The product contains organic solvents which will evaporate easily from all surfaces.

Degradability: The degradability of the product has not been stated.

Ecotoxicity: The product is not expected to be hazardous to the environment.

Bioaccumulative potential: No information available.

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: Acetone, CAS-No. 67-64-1: RCRA: Waste number U002.
Ethyl acetate, CAS-No. 141-78-6: RCRA: Waste number U112.

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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

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

CERCLA:

Acetone, CAS-No. 67-64-1: Final RQ = 5000 pounds (2270 kg).

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

NFPA Rating: Health:1 Fire:3 Reactivity:0 Other:-

Specific provisions: State and local 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 following sections contain revisions or new statements: 3, 9, 12.

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

MATERIAL SAFETY DATA SHEET

Product name: CPS Screen Adhesive MF (Component B) Page: 1/6
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SDS-ID: US-D/7.0

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

Product name: CPS Screen Adhesive MF (Component B)
Application: Hardener for CPS Screen Adhesive, for Mesh- Container size: 0.1l, 0.5l
stretching.
Supplier: Autotype Americas, Inc.
2050 Hammond Drive
Schaumburg, IL 60173-3810
Tel: 1-847-303-5900

2. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture of: isocyanates and solvents.

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: 30-60 %
Diphenylmethane-diisocyanate, isomeres and homologues, CAS No. 9016-87-9: 30-60 %

3. HAZARDS IDENTIFICATION

Physical and Chemical Hazards: The product is highly flammable.

Human health: Harmful by inhalation. Irritating to eyes, respiratory system and skin. May cause sensitisation by skin contact. Contains non-volatile isocyanate. Heating may generate vapours which irritate the respiratory system, cause asthmatic breathing, breathlessness and risk of development of respiratory allergy.
This product contains no ingredient listed on the NTP, OSHA or IARC carcinogen lists.

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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: Remove contaminated clothing immediately and wash skin with soap and 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: During fire, toxic gases 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: Do not smoke or use open fire or other sources of ignition.
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.
For waste disposal, see point 13.

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7. HANDLING AND STORAGE

Safe handling advice: Good personal hygiene is necessary. Wash hands and contaminated areas with water and soap before leaving the work site.
Immediately change drenched clothing.
Avoid inhalation of vapours and contact with skin and eyes.

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

Technical precautions: Mechanical ventilation may be required.

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>
Ethyl acetate	400ppm 1400mg/m ³	TWA	-	ACGIH
Ethyl acetate	400ppm 1400mg/m ³	TWA		OSHA

Respiratory equipment: In case of inadequate ventilation use suitable respirator. Use respiratory equipment with gas filter, type A2.

Hand protection: Wear protective gloves. Use disposable gloves protecting against isocyanates along with cotton gloves closest to the skin. Laminate (PE/EVOH) gloves are recommended. Be aware that the liquid may penetrate the gloves. Frequent change is advisable.

Eye protection: Risk of splashes: Wear goggles/face shield.

Skin protection: Wear apron or protective clothing in case of splashes.

Hygiene measures: Wash hands after handling. Remove contaminated clothing and wash the skin thoroughly with soap and water after work.

Environmental exposure controls: No information available.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: yellow liquid
Odour: of solvents
pH: not available
Boiling point: 170.6°F
Flash point: 17.6°F
Explosive properties: 2.1-11.5 vol%
Vapour pressure: 75 mmHg
Relative density: 1.0
Solubility: Approx. 10%, reacts with water
Other data: Autoignition temperature: 860°F
Evaporation rate (BuAc=100): 494
VOC (Volatile Organic Substances, ASTM D2369-01): 500 g/l

10. STABILITY AND REACTIVITY

Stability: Stable under normal temperature conditions.
Curing time for the mixture: 25-35 min.
Harmful vapours may be liberated during curing.

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

Hazardous
decomposition products: None at ambient temperatures. If heated, harmful vapours/gases (e.g. CO, NOx, isocyanates) may be formed.

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. Contains non-volatile isocyanate. When heated, vapours are formed which may irritate the respiratory system and cause coughing, asthmatic breathing and breathlessness. Frequent inhalation of vapours may cause development of respiratory allergy to isocyanates.
LC50 (inhalation, rat): 200 gm/m3 (RTECS) for ethyl acetate.

Skin contact: Irritating and degreasing. May cause sensitisation by skin contact.

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 NTP, OSHA or IARC carcinogen lists.

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12. ECOLOGICAL INFORMATION

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

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

Ecotoxicity: The eco-toxicity of the product is considered to be limited.

Bioaccumulative potential: No data available on bioaccumulation.

Other adverse effects: The product contains a substance which has a photochemical ozone creation potential.

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.

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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SDS-ID: US-D/7.0

15. REGULATORY INFORMATION

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

CERCLA:

Ethyl acetate, CAS-No. 141-78-6: Final RQ = 5000 pounds (2270 kg). Contains isocyanates. See information supplied by the manufacturer.

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

Specific provisions: State and local 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.
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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.
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16. OTHER INFORMATION

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The following sections contain revisions or new statements: 3, 12.

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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