



# Hardener A&B

PRODUCT TECHNICAL DATA SHEET



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## USAGE

Murakame Hardener A & B is designed to chemically extend the water base and discharge ink resistance of Murakami Direct Emulsions and Capillary Film.

## HOW TO USE:

1. Completely process stencils. Make sure stencils are dry. Inspect and touch up screen as necessary.
2. Mix Part A and Part B components at a 1:1 ratio. Do not add water. Mix what you need on a weekly basis.
3. Apply Hardener A&B to the screen using a sponge, soft cloth, or a spray bottle. Completely dry screen after hardener is applied.
4. Inspect screen to see if any hardener has dried into the image area. Rinse with tap water to remove any Hardener residue. Allow screen to dry.

## HANDLING

1. The use of waterproof gloves and protective eyewear are recommended when using Hardener A&B.
2. Do not thin Hardener A&B with either water or solvent. Use as is in order to maximize it's effect.

**IMPORTANT:** Technical data herein is believed to be accurate. It is offered for your consideration, investigation, and verification. Buyer assumes all risk of use, storage, and handling of the product. No warranty, express or implied is made, including but not limited to, implied warranties of merchantability and fitness for a particular purpose. Nothing contained herein shall be considered as a license to operate under, or recommendation to infringe any patents.



**MURAKAMI**

**MURAKAMI SCREEN USA, INC.** 745 Monterey Pass Rd. Monterey Park, CA 91754  
TEL: 323.980.0662, FAX: 323.980.0659 [www.murakamiscreen.com](http://www.murakamiscreen.com)

INFOTRAC  
EMERGENCY #  
800.535.5053

## **MATERIAL SAFETY DATA SHEET**

Date Prepared/Revised: January 13, 2010

### **I. PRODUCT IDENTIFICATION**

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Trade Name (as labeled): **HARDENER-A**  
Manufacturers Name:  
Murakami Screen USA Inc.  
745 Monterey Pass Road  
Monterey Park, CA 91754  
Phone Number: 800-562-3534

### **II. HAZARDOUS INGREDIENTS**

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	CAS NO.	% RANGE
Hydrochloric	7647-01-0	1-5%

All ingredients of this product are listed under the TSCA INVENTORY

### **III. HEALTH AND HAZARD INFORMATION**

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#### TOXICOLOGY

Threshold Limit Volume: 7.5ppm Hydrochloric acid (2001 ACGIH TWA)

Inhalation: Excessive exposure may cause an edema of the lungs. Signs and symptoms of excessive exposure may be to the central nervous system.

Skin Contact: Excessive exposure may cause minor irritation.

Eye Contact: May cause eye irritation and also moderate corneal injury.

Protective Equipment: Gloves, safety glasses

### **IV. FIRST AID PROCEDURES**

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Never give fluids or induce vomiting if patient is unconscious or having convulsions. Medical conditions aggravated by exposure may be pre-existing skin or other physical conditions.

Ingestion: Induce vomiting if large amounts are ingested. Contact a physician.

Eye: Rinse well with water immediately and continuously. Contact a physician if irritation persists.

Skin: Wash well with soap and water. Contact a physician if irritation persists.

Inhalation: Remove patient from the area to fresh air. Contact a physician if irritation persists or breathing becomes difficult.

NOTE TO PHYSICIAN: No specific antidote. Supportive Care: Treatment based on judgment

of the physician in response to the reactions of the patient.

## **V. SPILL, LEAK, AND DISPOSAL PROCEDURES**

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Steps to be taken in case of spills or leaks:

Spillage should be contained by and covered by large quantities of sand, earth, or similar absorbent material, then brushed in vigorously to assist absorption. The mixture can then be collected with a plastic shovel into drums, plastic bags, or containers and remove for disposal. Prevent from flowing into ground or surface water.

Disposal: Follow all relevant regulations for disposal. Check with your local authority.

Storing: Store container tightly closed in a well-ventilated, cool, and dark place.  
Keep away from heat and sunlight (UV light).

Note: Dispose all waste material in accordance with federal, state, and local authorities.

## **VI. PHYSICAL PROPERTIES**

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Specific Gravity @ 77°F (25°C): 1.01-1.04

Boiling Point: 100°C

Viscosity @ 77°F (25°C): 1cps

pH Value: 0.2-1.0

Appearance and Odor: Clear liquid with a slight pungent odor.

## **VII. FIRE AND EXPLOSION**

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Flash Point / Method: Not flammable

Appropriate Extinguishers: Use water, foam, dry chemical and/or CO<sub>2</sub>.

## **VIII. REACTIVITY DATA**

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Stability: Stable under normal conditions.

Conditions to avoid: Heat and exposure to sunlight (UV light).

## **IX. SPECIAL HANDLING PROCEDURES**

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Ventilation and engineering controls:

None required. Local exhaust ventilation may be necessary for some operations.

Respiratory Protection:

None required under normal conditions. If respiratory irritation is experienced, use an approved respirator.

Use an approved self contained breathing apparatus if emergency conditions occur.

Eye Protection:

Use safety glasses.

Gloves: Use vinyl or other protective gloves to prevent direct skin contact.

Storage: Protect from freezing.

## **X. REPORTING REQUIREMENTS AND ADDITIONAL INFORMATION**

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HMIS Code System Rating: Health 1; Flammability 0; Reactivity 0.

NFPA 704 Code System Rating: Health 0; Flammability 0; Reactivity 0.

Volatile Organic Compound (VOC): None

Contains no carcinogen or petroleum hydrocarbons.

Note: Information herein is given in good faith and accurate to the best of our knowledge. No warranty is given, expressed, or implied.

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## **MATERIAL SAFETY DATA SHEET**

Date Prepared/Revised: January 13, 2010

### **I. PRODUCT IDENTIFICATION**

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Trade Name (as labeled): **HARDENER B**  
Manufacturers Name:  
Murakami Screen USA Inc.  
745 Monterey Pass Road  
Monterey Park, CA 91754  
Phone Number: 800-562-3534

### **II. HAZARDOUS INGREDIENTS**

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	CAS NO.	% RANGE
Glyoxal	107-22-2	1-5%
Methanol	67-56-1	1-5%
Ethanol	64-17-5	3-8%

All ingredients of this product are listed under the TSCA INVENTORY

### **III. HEALTH AND HAZARD INFORMATION**

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#### TOXICOLOGY

Threshold Limit Volume: Glyoxal, None established.  
Methanol, 200ppm. Ethanol, 1000ppm (2001 ACGIH TWA)

Inhalation: Excessive exposure may cause an edema of the lungs. Signs and symptoms of excessive exposure may be to the central nervous system.

Skin Contact: Excessive exposure may cause minor irritation.

Eye Contact: May cause eye irritation and also moderate corneal injury.

Protective Equipment: Gloves, safety glasses

### **IV. FIRST AID PROCEDURES**

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Never give fluids or induce vomiting if patient is unconscious or having convulsions. Medical conditions aggravated by exposure may be pre-existing skin or other physical conditions.

Ingestion: Induce vomiting if large amounts are ingested. Contact a physician.

Eye: Rinse well with water immediately and continuously. Contact a physician if irritation persists.

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Inhalation: Remove patient from the area to fresh air. Contact a physician if irritation persists or breathing becomes difficult.

NOTE TO PHYSICIAN: No specific antidote. Supportive Care: Treatment based on judgment

of the physician in response to the reactions of the patient.

## **V. SPILL, LEAK, AND DISPOSAL PROCEDURES**

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Disposal: Follow all relevant regulations for disposal. Check with your local authority.

Storing: Store container tightly closed in a well-ventilated, cool, and dark place.  
Keep away from heat and sunlight (UV light).

Note: Dispose all waste material in accordance with federal, state, and local authorities.

## **VI. PHYSICAL PROPERTIES**

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Specific Gravity @ 77°F (25°C): 0.99-0.998

Boiling Point: 90°C

Viscosity @ 77°F (25°C): 1cps

pH Value: 5.5-6.8

Appearance and Odor: Clear liquid with a slight pungent odor.

## **VII. FIRE AND EXPLOSION**

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Flash Point / Method: Not flammable

Appropriate Extinguishers: Use water, foam, dry chemical and/or CO<sub>2</sub>.

## **VIII. REACTIVITY DATA**

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Stability: Stable under normal conditions.

Conditions to avoid: Heat and exposure to sunlight (UV light).

## **IX. SPECIAL HANDLING PROCEDURES**

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Ventilation and engineering controls:

None required. Local exhaust ventilation may be necessary for some operations.

Respiratory Protection:

None required under normal conditions. If respiratory irritation is experienced, use an approved respirator.

Use an approved self contained breathing apparatus if emergency conditions occur.

Eye Protection:

Use safety glasses.

Gloves: Use vinyl or other protective gloves to prevent direct skin contact.

Storage: Protect from freezing.

## **X. REPORTING REQUIREMENTS AND ADDITIONAL INFORMATION**

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HMIS Code System Rating: Health 1; Flammability 0; Reactivity 0.

NFPA 704 Code System Rating: Health 0; Flammability 0; Reactivity 0.

Volatile Organic Compound (VOC): None

Contains no carcinogen or petroleum hydrocarbons.

Note: Information herein is given in good faith and accurate to the best of our knowledge. No warranty is given, expressed, or implied.