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Material Safety Data Sheets**

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HASTINGS PLASTICS COMPANY

1704 Colorado Ave. Santa Monica, CA 90404 310-829-3449 FAX 310-828-6820

PRODUCT DATA
MSDS 1600-1B comp A
REVISED 07/03/01
REPLACES 09/12/94

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QUIKAST 1600-1B COMPONENT A

SECTION I - PRODUCT IDENTIFICATION

MANUFACTURER'S NAME - HASTINGS PLASTICS COMPANY
PRODUCT INFO/SALES - (310) 829-3449
EMERGENCY PHONE NUMBER - 24 HOUR (800) 424-9300
PRODUCT NAME - QUIKAST 1600-1B Component A
PRODUCT CODE NUMBER - 1600-1B
CHEMICAL FAMILY - Polymeric Isocyanate
CHEMICAL NAME - Polymeric Diphenylmethane 4, 4 Diisocyanate
SYNONYMS - MDI, ISO, "A" Component
CAS Number - SEE BELOW (Section II) - **COMPONENTS**
TSCA Status - On Inventory

SECTION II - HAZARDOUS INGREDIENTS

<u>COMPONENTS</u>	<u>CAS #</u>	<u>APPROX%</u>	<u>CURRENT TLV / PEL</u>
1)4, 4-Diphenylmethane Diisocyanate	101-68-8	30-50	.02 PPM, ceiling
2)Higher Oligomers of MDI	9016-87-9	30-50	Not Listed
3)Chlorinated Paraffin Hydrocarbon		20-40	N.E.

SECTION III - PHYSICAL DATA

APPEARANCE AND ODOR - Viscous Liquid, Light to Dark Brown, Slightly Aromatic or Musty
BOILING POINT (°F) - Decomposes at 646°F (341°C)
VAPOR PRESSURE (mm HG) - (mm Hg at 20°C ; below 0.0001)
VAPOR DENSITY (Air=1) - 8.6
SPECIFIC GRAVITY (H₂O=1) - 1.2
SOLUBILITY IN WATER - Reacts
EVAPORATION RATE - N/A.
MOLECULAR WEIGHT - N/A
FREEZING POINT - Below 60°F
MELTING POINT - N/A
PERCENTAGE VOLATILE - 20-40

SECTION IV - FIRE AND HAZARD EXPLOSION DATA

FLASH POINT - 200° F (93°C) COC
FLAMMABLE LIMITS IN AIR BY VOL. - Lower: N.E. (Nonvolatile Fluid)
- Upper: N.E. (Nonvolatile Fluid)
EXTINGUISHING MEDIA - Dry chemical extinguishers such as Monoammonium Phosphate, Potassium Sulphate, Potassium Chloride. Additionally, Carbon Dioxide, high expansion (Protenic) chemical foam, water spray for large fires.
EXTINGUISHING MEDIA TO AVOID - None
SPECIAL FIREFIGHTING PROCEDURES: If water is used, use large amounts as the reaction between hot Isocyanates and water can be vigorous. Use self-contained breathing apparatus and body covering protective clothing.
UNUSUAL FIRE AND EXPLOSION HAZARDS: Water contamination will produce Carbon Dioxide. Do not re-seal contaminated containers as pressure buildup may rupture them.

SECTION V - HEALTH HAZARD DATA

ANIMAL TOXICITY

ORAL, LD50 (ingestion)	>20 G/KG (Rats)
DERMAL, LDS50 (skin contact)	>15.8 G/KG (Rabbits)
INHALATION, LC50 (4 HR)	Approx. 370 MG/L (Dapnea, Limnea Invertebrates and Zebra Fish)
EYES	Not Irritating (Rabbits) OECD guidelines
SKIN	Slight irritation (Rabbits) OECD guidelines and sensitizer in Guinea Pigs

OTHER

No Conclusive evidence has been developed to indicate that MDI is carcinogenic, teratogenic, or that it causes reproductive effects in animals and humans. However, MDI has been reported by NIOSH to be mutagenic to Salmonella Typhimurium Bacteria. There is not full agreement in the scientific community as to the safety of human cancer risks.

EFFECTS OF OVEREXPOSURE:

EYES: May cause slight irritation.

SKIN: May cause allergic skin reaction in susceptible individuals. Prolonged or repeated contact may cause skin irritation and may stain the skin.

INGESTION: This is not considered a common occupation route of exposure, and single dose toxicity is low.

Threshold Limit Value (ACGIH): TLV is .005 PPM TWA

Permissible Exposure Limit (OSHA): PEL is .02 PPM

INHALATION: May cause respiratory sensitization in susceptible individuals. At room temperature, vapors are minimal due to low vapor pressure. If heated or sprayed as an aerosol, excessive concentrations are attainable that could be hazardous on single exposure. Excessive exposure may cause irritation of the eyes, upper respiratory tract and lungs. Effects may be delayed. Decreased ventilatory capacity has been associated with exposure to similar isocyanates; it is possible that exposure to MDI may cause impairment of lung function.

CARCINOGENICITY:

Neither MDI nor Polymeric MDI are listed by the NTP, JARC or regulated by federal OSHA or Cal OSHA as carcinogens.

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE:

Asthma, other respiratory disorders (bronchitis, emphysema, bronchial hyperactivity), skin allergies, eczema.

ADDITIONAL TOXICITY INFORMATION:

OTHER HEALTH HAZARDS:

None currently known.

NOTES TO PHYSICIAN:

No specific antidote, supportive care. Treatment based on judgement of physician in response to reaction of the patient. The manifestations of respiratory symptoms, including pulmonary edema, resulting from acute exposure, may be delayed. May cause respiratory sensitization.

SECTION VI EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT:

Flush with clean, lukewarm water at low pressure for at least 15 minutes, occasionally lifting eyelids. Consult physician immediately.

SKIN CONTACT:

Remove contaminated clothing. Wash exposed area with warm soapy water thoroughly. Contaminated clothing should be properly laundered before reusing.

INHALATION:

Remove victim from area of exposure to safe area. If not breathing, give mouth to mouth resuscitation. If breathing is difficult, give oxygen. Consult a physician immediately.

INGESTION:

No adverse effects anticipated by this route of exposure incidental to proper industrial handling.

SECTION VII - PERSONAL PROTECTION INFORMATION

EYE PROTECTION:

Liquid chemical goggles or full face shield. No contact lenses should be worn.

VENTILATION:

Natural or mechanical. Local exhaust will keep the TLV below minimum in most cases. Spills or other emergencies may require more forceful ventilation means.

SKIN PROTECTION:

Chemical resistant gloves such as natural rubber, or polyvinyl alcohol. Cover as much as possible with appropriate clothing. If skin creams are used, keep the area covered by the cream to a minimum.

RESPIRATORY PROTECTION:

This product has demonstrated no observable effects at room temperature, however, atmospheric levels should be maintained. In addition, in any spray application or situation where airborne particulates or aerosol are generated, a supplied air source must be provided.

OTHER PROTECTIVE EQUIPMENT:

Eye bath and safety shower should be provided in all work areas.

SECTION VIII - REACTIVITY DATA

STABILITY

- Stable under recommended storage conditions.

HAZARDOUS POLYMERIZATION:

- May occur with incompatible reactants, especially strong bases, water or temperature over 347° F (175° C). Temperatures over 120° F (49° C) accelerate the reaction with water.

CONDITIONS TO AVOID:

- None known

INCOMPATIBILITY:

- Water, acid, bases, metal compounds and surface active materials. Avoid water as it reacts to form heat, CO₂ and insoluble urea. The combined effect of the CO₂ and heat can produce enough presence of the above mentioned materials.

CONDITIONS TO AVOID:

- None known

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS:

Isocyanate vapor and mist, carbon dioxide, carbon monoxide, nitrogen oxides and traces of hydrogen cyanide.

SECTION IX - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Minor Spills:

Contain the spilled material and then cover with loose, absorbent material such as oildry, vermiculite, sawdust, or fuller's earth. Shovel waste material into proper waste containers. Do not make pressure tight. Transport to a well ventilated area and treat with a neutralizing solution consisting of a mixture of water and concentrated Ammonium Hydroxide or 5-10% Sodium Carbonate. Add about 10 parts of neutralizer per part of Isocyanate with mixing. Allow to stand 48 hours letting evolved CO₂ escape.

Major Spills:

If it is a transportation spill, notify Chem. Tel at (800) 255-3924. Evacuate and ventilate spill area. Dike spills to prevent entry into the environment. Wear full protective equipment including respiratory protection during clean up.
If temporary control of Isocyanate vapor is required, a blanket of protein foam may be placed over the spill. Large quantities may be pumped into closed but not sealed containers for disposal.

CLEAN UP: Decontaminate area using water/ammonium solution with 1-2% added detergent, letting it stand over affected area for at least 10 minutes. Cover mops, brooms, etc used for cleanup with plastic and dispose of properly (often by incineration).

WASTE DISPOSAL METHOD:

Waste material may be incinerated at proper facilities or disposed of under Local, State and Federal regulations controlling environmental protection.

SECTION X - SPECIAL PRECAUTIONS AND STORAGE DATA

STORAGE TEMPERATURE (Min/Max): - 65° F (18° C) to 75° F (24° C)

AVERAGE SHELF LIFE: - 6 months from date of mfg.

SPECIAL SENSITIVITY:

This product is reactive with water. Containers should be tightly sealed to prevent moisture contamination. A nitrogen blanket should be used for bulk storage at a temperature of 65° F to 75° F. Protect from freezing.

PRECAUTIONS IN HANDLING AND STORAGE:

If contamination of the MDI is suspected, do not re-seal containers because of possible rupture due to pressure buildup. Always slowly vent container when opening to relieve any pressure buildup.

SECTION XI - SHIPPING DATA

TECHNICAL SHIPPING NAME: - 4,4 - Diphenylmethane Diisocyanate

FREIGHT CLASS BULK: - 4,4 - Diphenylmethane Diisocyanate

FREIGHT CLASS PACKAGE: - Chemicals, NOI (Isocyanate), NMFC 60000

PRODUCT LABEL: - Product Label Established

DOT (HM-181) (Domestic Surface) - Hazard Class or Division: Non-Regulated

IMO/IMDG Code (OCEAN) - Hazard Class or Division: Non-Regulated

XII OTHER REGULATORY INFORMATION

HMIS and NFPA RATINGS:

- Health / 3
- Flammability / 1
- Reactivity / 1
- Other / None

0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

DISCLAIMER OF LIABILITY

As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim liability for any use of this material.

Information contained herein is believed to be true and accurate but all statements are made without warranty, express or implied, regarding the accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof. It is the user's obligation to determine the conditions of safe use and the suitability of the material for the user's purpose.

Prepared By:

ErikRicci
Form # 170-21A
Revised 07/03/01

HASTINGS PLASTICS COMPANY

PRODUCT DATA
MSDS 1600-1B comp B
REVISED 08/20/01
REPLACES 09/13/94

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QUIKAST 1600-1B COMPONENT B

SECTION I - PRODUCT IDENTIFICATION

MANUFACTURER'S NAME - HASTINGS PLASTICS COMPANY
PRODUCT INFO/SALES - (310) 829-3449
EMERGENCY PHONE NUMBER - 24 HOUR (800) 424-9300
PRODUCT NAME - QUIKAST 1600-1B Component B Casting Urethane
PRODUCT CODE NUMBER - 1600-1B
CHEMICAL FAMILY - Polyether Polyol
CHEMICAL NAME - Polyether Polyol
SYNONYMS - Polyol, Urethane Resin, Component "B"
CAS Number - N/A
TSCA Status - On Inventory

SECTION II - HAZARDOUS INGREDIENTS

<u>COMPONENTS</u>	<u>CAS #</u>	<u>APPROX%</u>	<u>CURRENT TLV / PEL</u>
1)Hydroxyl Terminated Poly(Oxyalkylene)	9082-00-2	20-30	N/E
2)Aromatic Solvent Blend	68477-31-6	20-40	300 PPM
3)Amine Bearing Hydroxyl Terminated Poly(Oxyalkylene) Polyether Cas#	25214-63-5	20-30	N.E.

*Ingredients not precisely identified are proprietary or not hazardous. Values are not product specifications

SECTION III - PHYSICAL DATA

APPEARANCE AND ODOR - Viscous Liquid, Light to Dark Brown, Slightly Aromatic or Musty
BOILING POINT (°F) - Decomposes
VAPOR PRESSURE (mm HG) - <30 mm hg
VAPOR DENSITY (Air=1) - N.E.
SPECIFIC GRAVITY (H₂O=1) - 1.06
SOLUBILITY IN WATER - Slightly Soluble
EVAPORATION RATE - N/A.
MOLECULAR WEIGHT - N/A
FREEZING POINT - Below 32°F
MELTING POINT - N/A
PERCENTAGE VOLATILE - 20-40

SECTION IV - FIRE AND EXPLOSION DATA

FLASH POINT - 200° F (93°C) PMCC
FLAMMABLE LIMITS IN AIR BY VOL. - Lower: N.E. (Nonvolatile Fluid)
- Upper: N.E. (Nonvolatile Fluid)
EXTINGUISHING MEDIA - Dry chemical extinguishers such as Monoammonium Phosphate, Potassium Sulphate, Potassium Chloride. Additionally, Carbon Dioxide, high expansion (Protenic) chemical foam, water spray for large fires.
EXTINGUISHING MEDIA TO AVOID - None

SPECIAL FIREFIGHTING PROCEDURES:

Do not direct a solid water stream or foam into hot, burning pool; this may cause frothing and increase fire intensity. Use self-contained breathing apparatus and body covering, protective clothing. Burning can produce oxides of carbon and nitrogen.

SECTION V - HEALTH HAZARD DATA**ANIMAL TOXICITY**

ORAL, LD50 (ingestion)	-	N.E.
DERMAL, LDS50 (skin contact)	-	N.E.
INHALATION, LC50 (4 HR)	-	N.E.
EYES	-	N.E.
SKIN	-	N.E.
AQUATIC, LC50 (24hr)	-	N.E.

HUMAN EFFECTS OF OVEREXPOSURE:

EYES: May cause slight irritation.

SKIN: This product contains petroleum solvent, which may cause irritation to the skin after prolonged contact. Some individuals may be more sensitive to exposure. This can cause dermatitis.

INGESTION: This is not considered a common occupation route of exposure, however, due to the solvent, nausea and vomiting can occur. Aspiration of the solvent can cause pulmonary edema.

INHALATION: May cause irritation to the throat and respiratory passages but at room temperature, vapor inhalation is not considered hazardous. This product contains petroleum solvent and inhalation of the concentrated vapors may cause headache and nausea.

Threshold Limit Value (ACGIH):

No TLV has been established for this product as a system. It contains solvent - 300 PPM

Permissible Exposure Limit (OSHA):

Same as above.

SUSPECTED CARCINOGENICITY:

Federal OSHA	-	Not Regulated
Cal OSHA	-	Not Regulated
NTP	-	Not Listed
LARC	-	Not Listed

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE:

No data available.

ADDITIONAL TOXICITY INFORMATION:**OTHER HEALTH HAZARDS:**

None currently known.

SECTION VI - EMERGENCY AND FIRST AID PROCEDURES**EYE CONTACT:**

Flush with clean, lukewarm water at low pressure for at least 15 minutes, occasionally lifting eyelids. Not considered to have any adverse effects.

SKIN CONTACT:

Remove contaminated clothing. Wash exposed area with warm soapy water thoroughly. Contaminated clothing should be properly laundered before reusing.

INHALATION:

Remove victim from area of exposure to safe area.

INGESTION:

Do not induce vomiting. Aspiration of the solvent can cause pulmonary edema.

SECTION VII - PERSONAL PROTECTION INFORMATION**EYE PROTECTION:**

Liquid chemical goggles or full face shield. No contact lenses should be worn.

VENTILATION:

Natural or mechanical. Local exhaust will keep the TLV below minimum in most cases. Spills or other emergencies may require more forceful ventilation means.

SKIN PROTECTION:

Chemical resistant gloves such as natural rubber, or polyvinyl alcohol. Cover as much as possible with appropriate clothing. If skin creams are used, keep the area covered by the cream to a minimum.

RESPIRATORY PROTECTION:

This product has demonstrated no observable effects at room temperature, however, it is highly recommended that an air-purifying respirator with organic filter cartridges be worn. In addition, in any spray application, a supplied air source must be provided.

OTHER PROTECTIVE EQUIPMENT:

Eye bath and safety shower should be provided in all work areas. All employees should be properly trained.

SECTION VIII - REACTIVITY DATA**STABILITY**

- Stable

HAZARDOUS POLYMERIZATION:

- Will not occur.

CONDITIONS TO AVOID:

- None known

INCOMPATIBILITY:

- Avoid contact with isocyanates and other substances that react with hydroxyl groups.

CONDITIONS TO AVOID:

- None known

HAZARDOUS DECOMPOSITION PRODUCTS:

- Aliphatic fragments, CO, NH₃, CO₂

SECTION IX - SPILL OR LEAK PROCEDURES**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:**

Contain the spilled material and then cover with loose, absorbent material such as oildry, vermiculite, sawdust, or fuller's earth. Shovel waste material into proper waste containers. Wash the contaminated areas with hot, soapy water, thoroughly. Ventilate area to remove vapors.

WASTE DISPOSAL METHOD:

Waste material may be incinerated at proper facilities or disposed of under Local, State and Federal regulations controlling environmental protection.

SECTION X - SPECIAL PRECAUTIONS AND STORAGE DATA

STORAGE TEMPERATURE (Min/Max): - 65° F (18° C) to 75° F (24° C)

AVERAGE SHELF LIFE: - 6 months from date of mfg.

SPECIAL SENSITIVITY (heat, light, moisture):

This product is hygroscopic. Containers should be tightly sealed to prevent moisture contamination. Do not expose to high temperatures for any length of time as aldehydes may be formed.

PRECAUTIONS IN HANDLING AND STORAGE:

If contamination with isocyanates is suspected, do not re-seal container because of possible rupture due to pressure buildup. Always slowly vent container when opening to relieve any pressure buildup. This is a combustible liquid, store away from heat and sources of ignition.

SECTION XI - SHIPPING DATA

- TECHNICAL SHIPPING NAME: - Polyether Polyol Blend/Solvent Blend
 - DOT HAZARD CLASSIFICATION: - Combustible Liquid
 - FREIGHT CLASS BULK: - Combustible Liquid
 - FREIGHT CLASS PACKAGE: -
 - PRODUCT LABEL: - "B" Component Polyol
 - PLACE CARD REQUIRED: - None
 - HMIS: - F=1 H=2 R=0
- 0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

DISCLAIMER OF LIABILITY

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