

MATERIAL SAFETY DATA SHEET

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HMIS HAZARD RATING

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SECTION I: PRODUCT IDENTIFICATION

Product Name: **DAUBOND 6550**
Chemical Family: Modified Polyisocyanate
Material Usage: One-Component Adhesive

SECTION II: HAZARDOUS INGREDIENTS

<u>Component</u>	<u>Wt %</u>	<u>Recommended Exposure Limits (TWA)</u>
Diphenylmethane-4,4'-diisocyanate (MDI), Isomers and homologues. CAS #9016-87-9	25-50	OSHA PEL: 0.02 ppm (MDI) ACGIH TLV: 0.005 ppm (MDI)

SECTION III: HEALTH HAZARD INFORMATION

Primary Routes of Entry: Inhalation, ingestion, skin absorption.

Acute Effects: MDI vapors or mist at concentrations above the TLV can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) causing runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing obstruction). Persons with a preexisting, nonspecific bronchial hyperreactivity can respond to concentrations below the TLV with similar symptoms as well as asthma attack. Exposure well above the TLV may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in lungs). These effects are usually reversible. Chemical or hypersensitive pneumonitis, with flu-like symptoms (e.g., fever, chills) has also been reported. These symptoms can be delayed up to several hours after exposure. Isocyanates react with skin protein and moisture and can cause irritation which may include the following symptoms: reddening, swelling, rash, scaling or blistering. Cured material is difficult to remove.

Chronic Effects: Allergic skin/respiratory reactions may arise in sensitive individuals resulting in asthma-like symptoms upon subsequent exposure below TLV. These symptoms, which can include chest tightness, wheezing, cough, shortness of breath or asthma attack, could be immediate or delayed (up to several hours after exposure). Similar to many non-specific asthmatic responses, there are reports that once sensitized an individual can experience these symptoms upon exposure to dust, cold air or other irritants. This increased lung sensitivity can persist for weeks and in severe cases for many years. Overexposure to isocyanates has also been reported to cause lung damage (including decreased lung function) which may be permanent. Sensitization can either be temporary or permanent. Animal tests have indicated that respiratory sensitization can result from skin contact with MDI. This reinforces the need to prevent direct skin contact with MDI.

Carcinogenicity: MDI is listed as a Group 3 (not classifiable as to its carcinogenicity to humans) by IARC. Lung tumors have been observed in laboratory animals exposed to aerosol droplets of DI/Polymeric MDI (6 mg/m³) for their lifetime. Tumors occurred concurrently with respiratory irritation and lung injury. Current exposure guidelines are expected to protect against these effects reported for MDI.

Pre-Existing Medical Conditions Aggravated by Exposure: Asthma, other respiratory disorders (bronchitis, emphysema, bronchial hyper-reactivity), skin allergies, eczema.

SECTION IV: FIRST AID PROCEDURES

Keep victim quiet and maintain normal body temperature. Effects may be delayed; keep victim under observation.

Inhalation: Move victim to fresh air and call emergency medical care. If not breathing, give artificial respiration; if breathing is difficult, give oxygen.

Eyes: In case of contact with material, immediately flush eyes with running water for at least 15 minutes. Seek immediate medical attention.

Skin: In case of contact with material, immediately flush skin with running water for at least 15 minutes. Speed in removing material from skin is of extreme importance. Remove and isolate contaminated clothing and shoes at the site.

Ingestion: DO NOT INDUCE VOMITING. Consult a physician. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs.

Note to Physician:

Eyes: Stain for evidence of corneal injury. If cornea is burned, instill antibiotic steroid preparation frequently. Workplace vapors have produced reversible corneal epithelial edema impairing vision.

Skin: This compound is a known skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burns. If burned, treat as thermal burn.

Ingestion: Treat symptomatically. MDI has a very low oral toxicity. There is no specific antidote. Inducing vomiting is contraindicated because of the irritation nature of this compound.

Respiratory: This compound is a known pulmonary sensitizer. Treatment is essentially symptomatic. An individual having a skin or pulmonary sensitization reaction to this material should be removed from exposure to any isocyanate.

SECTION V: FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method): 212°C (414°F) (PMCC)

Explosive Limits: LEL = .4% by volume UEL = Not Determined

EXTINGUISHING MEDIA:

Small Fires: Dry chemical, water spray, or regular foam.

Large Fires: Water spray, fog, or regular foam. Move container from fire area if you can do it without risk. Fight fire from maximum distance. Stay away from ends of tanks. Dike fire control water for later disposal; do not scatter the material.

Special Firefighting Protection/Emergency Action: Fire may produce irritating or poisonous gases. Positive pressure self-contained breathing apparatus (SCBA) and chemical protective clothing may be worn. Structural firefighters' protective clothing is not effective. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas.

Unusual Fire/Explosion Hazards: Some of these materials may burn, but none of them ignites readily. Container may explode violently in heat of fire.

Products of Combustion: Carbon monoxide, carbon dioxide, miscellaneous hydrocarbons.

SECTION VI: SPECIAL PRECAUTIONS AND SPILL/LEAK PROCEDURES

Steps To Be Taken In Case Material Is Released or Spilled: Remove all sources of ignition. Do not touch or walk through spilled material; stop leak if you can do it without risk. Fully-encapsulating, vapor-protective clothing should be worn for spills and leaks with no fire. Use water spray to reduce vapors.

Spill/Leak Procedures: Absorb onto inert material (vermiculite, sand, etc.). Pour liquid decontaminate ([Tergitol TMN 10-20%, Water 80%] or [Ammonium Hydroxide 6%, Detergent 2%, Water 92%]) over spillage. Allow to react at least 10 minutes. Collect material in open containers.

SECTION VII: SAFE HANDLING INFORMATION

Precautions To Be Taken In Handling/Storage: Store in cool, well-ventilated area. Keep away from flames, sparks or hot surfaces. Never use a torch to cut or weld on or near container. Empty containers can contain explosive vapors.

Other Precautions: Never wear contaminated clothing. Launder or dry clean before wearing. Discard oil-soaked shoes. Wash thoroughly with soap and water (waterless hand cleaner may be helpful in removing residues) after use and before smoking or eating. Avoid excessive skin contact.

SECTION VIII: EXPOSURE CONTROLS

Respiratory Protection: NIOSH-approved respirator for organic vapor and mist to control exposure where ventilation is inadequate.

Ventilation: General and local exhaust.

Personal Protective Equipment: Protective Gloves: Impervious gloves (Viton, etc.)

Eye Protection: Safety glasses with sideshields or chemical goggles.

Other Protective Clothing or Equipment: If splashing is anticipated, wear rubber apron and boots or other protective equipment to minimize contact.

SECTION IX: REACTIVITY HAZARD DATA

Stability: Stable

Incompatibility: Strong acids, oxidizers, amines, alcohols, water, epoxy curing agents.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, cyanide, oxides of nitrogen, isocyanates, miscellaneous hydrocarbons.

Hazardous Polymerization: Will not occur.

Conditions to Avoid: Strong oxidizers, all sources of ignition. Contact with moisture, amines, alcohols, epoxy curing agents and other materials that react with isocyanates. Avoid temperatures above 100°F. and below 32°F. Reacts with water forming carbon dioxide gas. In closed containers, there is a risk of bursting due to increased pressure.

SECTION X: PHYSICAL AND CHEMICAL PROPERTIES

Color:	Brown
Appearance:	Liquid
Odor:	Slightly Musty
Boiling Point (initial):	406°F.
Evaporation Rate (n-Butyl Acetate=1):	<1
Vapor Pressure (20°C):	4x10 ⁻⁶ hPa
Vapor Density (air=1):	8.5 (MDI)
Solubility in Water:	Reacts
Specific Gravity (Water=1):	1.12 ± .02
pH:	Not Applicable
Percent Volatile by Volume:	Nil

SECTION XI: DISPOSAL CONSIDERATIONS

Waste Disposal Methods: Dispose of in accordance with state, local and federal regulations. Materials may become a hazardous waste through use. If permitted, incineration may be practiced.

SECTION XII: REGULATORY INFORMATION

VOLATILE ORGANIC CONTENT: (Calculated Values)

VOC per Liter: Nil g/l
VOC per Liter Minus Exempt Solvents & Water: Nil g/l
VOC Vapor Pressure: 4×10^{-6} hPa @ 25°C

EPA HAZARDOUS WASTE NUMBER(S) (40 CFR PART 261): NONE

EPA HAZARD CATEGORY (40 CFR PART 370): IMMEDIATE (ACUTE)
DELAYED (CHRONIC)
REACTIVE

SARA TITLE III:

This product contains the following TOXIC CHEMICALS subject to the Reporting Requirements of Sec. 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986, and of 40 CFR Part 372:

Chemical	CAS No.	Wt%
Diphenylmethane-4,4'-diisocyanate (MDI)	101-68-8	25-50

This product contains the following EXTREMELY HAZARDOUS SUBSTANCE(S) subject to Emergency Planning Requirements under Sec. 301-303 (40 CFR Parts 300 and 355) and Emergency Release Notification Requirements under Sec. 304:

Chemical	CAS No.	Wt %	RQ/TPQ Lbs
NONE			

(CERCLA LIST) This product contains the following HAZARDOUS SUBSTANCE(S) subject to Emergency Release Notification Requirements under Sec. 304 (40CFR Part 302):

Chemical	CAS No.	Wt%	Final RQ Lbs
NONE			

CALIFORNIA PROPOSITION 65 This product may contain trace quantities of the following chemicals that are identified by the State of California under the Safe Drinking Water and Toxic Reinforcement Act of 1986 ("Proposition 65") as either a carcinogenic or reproductive hazard:

Chemical	CAS No.	Estimated Concentration %
NONE		

Although the information contained herein is believed to be reliable, it is furnished without warranty of any kind. This information is not intended to be all-inclusive as to the manner and conditions of use, handling, and storage.