

MATERIAL SAFETY DATA SHEET

NAME OF PRODUCT 181 PRIMER

FILE NO.: MSDS 181 PRIMER
MSDS DATE: 03/10/06

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 181 PRIMER
SYNONYMS:
PRODUCT CODES: AG 181

MANUFACTURER: Flexabar Corporation
DIVISION:
ADDRESS:

EMERGENCY PHONE: 1-800-424-9300
CHEMTREC PHONE: 1-800-424-9300
OTHER CALLS: 1-732-901-6500
FAX PHONE: 1-732-901-6504

CHEMICAL NAME: NA
CHEMICAL FAMILY: NA
CHEMICAL FORMULA: NA

PRODUCT USE: Primer for boat hulls
PREPARED BY: Hamdi Latif

SECTION 1 NOTES:

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT: XYLENE

<u>CAS NO.</u>	<u>% WT</u>	<u>% VOL</u>	<u>SARA 313 REPORTABLE</u>
1330-20-7	15.00 – 22.00 <u>ppm</u>	<u>mg/m3</u>	YES
OSHA PEL-TWA:			
OSHA PEL STEL :	100.00 PPM		
OSHA PEL CEILING:			
ACGIH TLV-TWA:			
ACGIH TLV STEL:			
ACGIH TLV CEILING:			

INGREDIENT: ETHYL ACETATE

<u>CAS NO.</u>	<u>% WT</u>	<u>% VOL</u>	<u>SARA 313 REPORTABLE</u>
141-78-6	30.00 – 40.00 <u>ppm</u>	<u>mg/m3</u>	NO
OSHA PEL-TWA:			
OSHA PEL STEL :	400	1400	
OSHA PEL CEILING:			
ACGIH TLV-TWA:			
ACGIH TLV STEL:	400	1400	
ACGIH TLV CEILING:			

INGREDIENT: METHYL ISOBUTYL KETONE

<u>CAS NO.</u>	<u>% WT</u>	<u>% VOL</u>	<u>SARA 313 REPORTABLE</u>
108-10-1	15.00 – 25.00 <u>ppm</u>	<u>mg/m3</u>	YES
OSHA PEL-TWA:	50	205	
OSHA PEL STEL :	75	300	
OSHA PEL CEILING:			
ACGIH TLV-TWA:	50	205	
ACGIH TLV STEL:	75	307	
ACGIH TLV CEILING:			

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INGREDIENT: Polyisocyanate based on MDI

<u>CAS NO.</u>	<u>% WT</u>	<u>% VOL</u>	<u>SARA 313 REPORTABLE</u>
Specific Chemical Identity withheld as a trade secrete	7.0 - 11.0 <u>ppm</u>	6.0 – 10.0 <u>mg/m3</u>	YES
OSHA PEL-TWA:			
OSHA PEL STEL :	NE	NE	
OSHA PEL CEILING:			
ACGIH TLV-TWA:			
ACGIH TLV STEL:	NE	NE	
ACGIH TLV CEILING:			

INGREDIENT: 4,4' – Diphenylmethane Diisocyanate

<u>CAS NO.</u>	<u>% WT</u>	<u>% VOL</u>	<u>SARA 313 REPORTABLE</u>
101-68-8	1.0 – 2.0 <u>ppm</u>	<2 <u>mg/m3</u>	YES
OSHA PEL-TWA:			
OSHA PEL STEL :			
OSHA PEL CEILING:	.02	.20	
ACGIH TLV-TWA:	.005	.051	
ACGIH TLV STEL:			
ACGIH TLV CEILING:			

INGREDIENT: Diphenylmethane Diisocyanate (MDI) (2,2; 2,4)

<u>CAS NO.</u>	<u>% WT</u>	<u>% VOL</u>	<u>SARA 313 REPORTABLE</u>
26447-40-5	1.0 – 2.0 <u>ppm</u>	<2 <u>mg/m3</u>	YES
OSHA PEL-TWA:			
OSHA PEL STEL :	NE	NE	
OSHA PEL CEILING:			
ACGIH TLV-TWA:			
ACGIH TLV STEL:	NE	NE	
ACGIH TLV CEILING:			

INGREDIENT: VINYL RESIN COPOLYMER

<u>CAS NO.</u>	<u>% WT</u>	<u>% VOL</u>	<u>SARA 313 REPORTABLE</u>
9005-09-8	5.0 – 10.0 <u>ppm</u>	<2 <u>mg/m3</u>	YES*
OSHA PEL-TWA:			
OSHA PEL STEL :			
OSHA PEL CEILING:			
ACGIH TLV-TWA:	10*		
ACGIH TLV STEL:	15*		
ACGIH TLV CEILING:			

SECTION 2 NOTES:

* As vinyl acetate a component

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SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Warning! Flammable liquid and vapor.
Color: Silver Form: Liquid Odor: Sweet, Ester

Overexposure may cause nervous system effects. May cause serious disturbances of heart rhythm. May cause skin irritation. Causes eye irritation. Causes respiratory tract irritation. Harmful or fatal if swallowed. Pulmonary aspiration hazard. After ingestion, may enter lungs and produce damage

ROUTES OF ENTRY:.....: skin contact from liquid and aerosols (spray application). Inhalation.

POTENTIAL HEALTH EFFECTS:

EYES:

ACUTE EYE CONTACT...Liquid, aerosols or vapors are irritating and can cause tearing, reddening and swelling. If left untreated, corneal damage can occur and is slow to heal. However damage is usually reversible. See first aid measures for treatment.

CHRONIC EYE CONTACT...None Found

SKIN: (XYLENE) May be absorbed through the skin in harmful amounts. Prolonged or repeated contact can result in defatting and drying of the skin which may result in skin irritation and dermatitis (rash) Prolonged or repeated skin contact may cause irritation.

(MDI) 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. Prolonged contact can cause reddening, rash, scaling, swelling, blistering and in some cases can cause skin sensitization. Individuals who have skin sensitization can develop these symptoms from contact with liquid and vapors. Animal tests have indicated that respiratory sensitization can result from skin contact with MDI.

INGESTION: (XYLENE) Moderately toxic. Irritating to mouth, throat, and stomach. May produce central nervous system effects, which may include dizziness, loss of balance and coordination, unconsciousness, coma and even death? Product may be harmful

or fatal if swallowed. Pulmonary aspiration hazard. After ingestion may enter lungs and produce damage.

(MDI) Can result in irritation and corrosive action in the mouth, stomach tissue and digestive tract. Symptoms can include sore throat, abdominal pain, nausea, vomiting and diarrhea.

INHALATION: (XYLENE) High concentrations may lead to central nervous system effects (drowsiness, dizziness, nausea, headaches, paralysis, loss of consciousness and even death). Repeated overexposure can cause a hearing loss in laboratory animals. Repeated overexposure has produced toxic effects in developing and young laboratory animals. Solvent "huffing/snuffing" (abuse) or intentional prolonged overexposure to high levels of vapors can produce abnormal behavior, convulsions, hallucinations, delirium, nervous system damage, serious disturbances of heart rhythm and sudden death. Prolonged or repeated exposure may cause liver and kidney damage.

(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 hyperactivity 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 symptoms can be delayed up to several hours after exposure.

(MDI CHRONIC INHALATION) As a result of previous repeated overexposures or a single large dose, certain individuals develop isocyanate sensitization (chemical asthma) which will cause them to react to a later exposure to isocyanate at levels well below the TLV. These symptoms which can include wheezing, chest tightness, shortness of breath, cough 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 last for weeks and in severe cases for several years. Overexposure to isocyanates has also been reported to cause lung damage (including decrease in lung function) which may be permanent. Sensitization can either temporary or permanent.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

The following diseases or disorders may be aggravated by exposure to this product: skin, eye, liver, kidney, nervous system, respiratory system, lung (asthma-like conditions)

CARCINOGENICITY

OSHA:	ACGIH:	NTP:	IARC:
Not Listed	Not Listed	Not Listed	Not Listed
OTHER:			

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SECTION 3 NOTES:

Xylene and all components thereof are listed on ACGIH

Benzene is listed on the OSHA List of Regulated Carcinogens and The OSHA List of Select Carcinogens also on the NTP List and the IARC Group 1 list.

Ethyl Benzene is listed on The IARC Group 3 list

SECTION 4: FIRST AID MEASURES

EYES: Flush with copious amounts of water (warm if possible) for at least 15 minutes, holding eyelids open at all times. Refer to a physician or ophthalmologist for immediate follow-up.

SKIN: Remove all contaminated clothing. Wash affected skin thoroughly with soap and water. Wash contaminated clothing thoroughly with soap and water before reuse. See physician if irritation develops or persists after washing.

INGESTION: DO NOT INDUCE VOMITING. Do not give liquids. Never give anything by mouth to an unconscious person. Seek immediate medical attention.

INHALATION: Move to an area free from further exposure. If not breathing administer artificial respiration as needed. If breathing is difficult give oxygen and monitor. Seek immediate medical attention. Asthmatic – type symptoms may develop and may be immediate or delayed for several hours. Consult a physician should this occur.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:

SECTION 4 NOTES:

SECTION 5: FIRE-FIGHTING MEASURES

FLAMMABLE LIMITS IN AIR, UPPER: 8.0%
(% BY VOLUME) **LOWER:** 1.1%

FLASH POINT:

F:

C: -4°

METHOD USED:

TCC

AUTOIGNITION TEMPERATURE:

F:

C: 485° C

NFPA HAZARD CLASSIFICATION

HEALTH:

FLAMMABILITY:

REACTIVITY:

OTHER:

HMIS HAZARD CLASSIFICATION

HEALTH: 3

FLAMMABILITY: 3

REACTIVITY: 1

PROTECTION: J

EXTINGUISHING MEDIA: Dry chemical, Foam, Carbon dioxide or Water spray

SPECIAL FIRE FIGHTING PROCEDURES: Full emergency equipment with self contained breathing apparatus and full protective clothing should be worn by firefighters. During a fire, MDI vapors and other irritating, highly toxic gasses may be generated by thermal decomposition or combustion. (See Stability and Reactivity). At temperatures greater than 400 F (204 C), polymeric MDI can Polymerize and decompose which can cause pressure build-up in closed containers. Explosive rupture is possible. Therefore use cold water spray to cool storage containers

UNUSUAL FIRE AND EXPLOSION HAZARDS: . Vapors may cause a flash fire or ignite explosively.

Vapors may travel considerable distance to a source of ignition and flash back. Prevent build up of vapors or gasses to explosive concentrations.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide and carbon dioxide.

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SECTION 5 NOTES:

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Evacuate and ventilate the spill area; dike spill to prevent entry into water system; wear full protective equipment. Prevent ignition, Remove all ignition sources, stop leak and ventilate the area. Contain spilled liquid with sand or earth **DO NOT** use combustible materials such as saw dust. Vapor can be controlled using a water fog. Water sprays should not be directed to the liquid as this will cause the liquid to boil and generate more vapor. Keep personal upwind from leak Use appropriate protection equipment as stated in section 8 of this MSDS. Advise EPA and appropriate state agencies if required. Absorb spill with inert material (dry sand or earth) and place in a chemical waste container for disposal.

SECTION 6 NOTES:

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE: Use only in a well ventilated area. Ground and bond containers when transferring material. Avoid breathing (dust, vapor, mist gas). Avoid prolonged or repeated contact with skin. Avoid contact with eyes, wash thoroughly after handling. Never siphon by mouth. Avoid breathing aerosol or vapors.

Store in tightly closed containers to prevent moisture contamination. Store away from heat, sparks, and flame. Store in a cool dry place Do not reseal if contamination is suspected, MDI reacts slowly with water to form CO₂ gas. This can cause sealed containers to expand and rupture. If container is exposed to high heat, 400° F it can be pressurized and possibly rupture.

OTHER PRECAUTIONS:

SHELF LIFE..... 6 months in tightly closed full containers @ 77° F (25° C)

SECTION 7 NOTES:

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION : Use with adequate ventilation. local exhaust may be necessary to control any contaminants to within their TLV's during the use of this product. Use explosion proof ventilation equipment. Standard reference sources regarding industrial ventilation (ie.,ACGIH Industrial Ventilation) should be consulted for guidance about adequate ventilation.

RESPIRATORY PROTECTION: Concentrations greater than the TLV can occur when MDI (a component) is sprayed, heated or used in a poorly ventilated area. In such cases or whenever concentrations of MDI exceed the TLV or are not known respiratory protection must be worn. A supplied air respirator (either positive pressure or continuous flow type) is required. In an emergency situation , a self- contained breathing apparatus can be used.

EYE PROTECTION: Liquid chemical goggles. If contact lenses are worn vapor resistant goggles should be worn. If a splash hazard exists chemical goggles should be used in conjunction with a full face shield.

SKIN PROTECTION: Chemical/solvent resistant gloves.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Where splashing is possible full chemical protective clothing should be worn,.

WORK HYGIENIC PRACTICES: Safety showers and eyewash stations should be available. Wash promptly after working with this Product. Remove and wash or dispose of all contaminated clothing and or equipment. Follow all label

SECTION 8 NOTES:

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

FILE NO.: MSDS 181 PRIMER
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APPEARANCE: Silver Liquid

ODOR: Sweet Ester

PHYSICAL STATE: Liquid

pH AS SUPPLIED: NA
pH (Other): NA

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES - CONTINUED

BOILING POINT:

F: 172

C: 78

MELTING POINT:

F: -53

C:

FREEZING POINT:

F: -70

C:

VAPOR PRESSURE (mmHg): NE

@

F:

C:

VAPOR DENSITY (AIR = 1): NE

@

F:

C:

SPECIFIC GRAVITY (H₂O = 1):

@ .92

F: 77

C:

EVAPORATION RATE: NE

BASIS (=1):

SOLUBILITY IN WATER: Insoluble

SECTION 9 NOTES:

SECTION 10: STABILITY AND REACTIVITY

STABLE

UNSTABLE

STABILITY: Stable

CONDITIONS TO AVOID (STABILITY):

INCOMPATIBILITY (MATERIAL TO AVOID): Contact with water or water vapors, Amines, strong oxidizing agents, alcohols, bases or halogenated materials.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Carbon Dioxide, Carbon Monoxide and oxides of Nitrogen.

HAZARDOUS POLYMERIZATION: May occur; contact with moisture, other materials which react with isocyanates may cause polymerization.

CONDITIONS TO AVOID (POLYMERIZATION): High heat; moisture or water vapor.

SECTION 10 NOTES:

SECTION 11: TOXICOLOGICAL INFORMATION

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TOXICOLOGICAL INFORMATION: Toxicological data for: Dipnethylmethane Diisocyanate (Monomeric and Polymeric) a component of this product.

Acute Toxicity

Oral LD50.....Greater than 15,800 mg/Kg (Rat)
Dermal LD.....Greater than 5,100 but less than 7,940 mg/Kg (Rabbit)
Inhalation LC50.....The 4-hour LC50 for polymeric MDI in rats ranges from 370 and 490 mg/m3.
The LC50 for monomeric MDI was estimated to be between 172 and 187 mg/m3.
Eye effects.....Slight to moderate irritation.
Skin effects.....Slight to moderate irritation.

SECTION 11: TOXICOLOGICAL INFORMATION – CONTINUED

Sensitization.....MDI has been shown to produce dermal sensitization in laboratory animals.
Evidence of respiratory sensitization has also been observed in guinea pigs.
Chronic Toxicity.....In a combined chronic inhalation toxicity/oncogenicity study, rats were exposed to an aerosol of polymeric MDI for 6 hours per day, 5 days a week for one or two years. The exposure concentrations were 0, 0.2, 1.0 and 6.0 mg/m3. Microscopic examination of the tissues revealed the effects of irritation to the nasal cavity and lungs in animals exposed to 1.0 and 6.0 mg/m3. The no observable effect level (NOEL) was 0.2 mg/m3. Ethylbenzene, a component of this product, has been designated by the IARC as “possibly carcinogenic to humans” based on increased tumor incidence in laboratory animals. Overexposure may lead to nervous system effects, including dizziness, drowsiness, nausea, headaches, paralysis, loss of consciousness and even death. Repeated overexposure has caused a hearing loss in laboratory animals.
Carcinogenicity.....In the above study (see chronic Toxicity MDI), The occurrence of pulmonary adenomas and a single pulmonary Aden carcinoma was considered to be related to MDI. These tumors were observed only in rats exposed to the high concentration of 6.0 mg/m3

SECTION 11 NOTES:

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No Data Available

SECTION 12 NOTES:

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Waste must be disposed of in accordance with federal, state and local environmental control regulations. Empty containers must be handled with care due to product residue. Empty containers should be crushed in order to prevent reuse.

RCRA HAZARD CLASS:

SECTION 13 NOTES:

SECTION 14: TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION

PROPER SHIPPING NAME: PAINT
HAZARD CLASS: 3
ID NUMBER: UN 1263
PACKING GROUP: II
LABEL STATEMENT: Flammable Liquid

WATER TRANSPORTATION

PROPER SHIPPING NAME: PAINT

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NAME OF PRODUCT 181 PRIMER
HAZARD CLASS: 3
ID NUMBER: UN 1263
PACKING GROUP: III
LABEL STATEMENTS: Flammable Liquid

AIR TRANSPORTATION
PROPER SHIPPING NAME: PAINT
HAZARD CLASS: 3
ID NUMBER: UN 1263
PACKING GROUP: II
LABEL STATEMENTS: Flammable Liquid

OTHER AGENCIES:

SECTION 14 NOTES:

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA (TOXIC SUBSTANCE CONTROL ACT): Not Listed

CERCLA (COMPREHENSIVE RESPONSE COMPENSATION, AND LIABILITY ACT): Not Listed

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT): Not Listed

311/312 HAZARD CATEGORIES: FLAMMABLE LIQUID

313 REPORTABLE INGREDIENTS: XYLENE Cas# 1330-20-7
METHYL ISOBUTYL KETONE Cas # 108-10-1
4,4 - DIPHENYLMETHANE DIISOCYANATE Cas #101-68-8
DIPHENYLMETHANE DIISOCYANATE (MDI) (2,2; 2,4) Cas # 26447-40-5
POLYISOCYANATE BASED ON MDI Trade Secrete
VINYL ACETATE Cas # 108-05-4

STATE REGULATIONS:

INTERNATIONAL REGULATIONS:

SECTION 15 NOTES:

SECTION 16: OTHER INFORMATION

ABBREVIATIONS: ACGIH = American Conference of Governmental Industrial Hygienists
OSHA = Occupational Safety and Health Administration
TLV = Threshold Limit Value
TWA = Time Weighted Average
PEL = Permissible Exposure Limit
STEL = Short Term Exposure Limit
NA = Not Applicable

PREPARATION INFORMATION: HMIS Hazard Ratings Scale 0 = Minimal, 1 = Slight, 2 = Moderate, 3 = Serious, 4 = Extreme
Check with supervisor for appropriate personal protection in accordance with rating.

DISCLAIMER:

The information contained herein relates only to the specific material identified. Flexabar Corporation believes that the information is accurate and reliable as of the preparation date of this material safety data sheet, but no representation, guarantee or warranty expressed or implied is made as to the accuracy, reliability or completeness of the information. Flexabar Corporation urges persons

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receiving this information to make their own determination as to the information's suitability and completeness for their particular application.