

**FUSABOND® E158 resin**

Version 2.2

Revision Date 08/12/2011

Ref. 130000021067

This SDS adheres to the standards and regulatory requirements of the United States and may not meet the regulatory requirements in other countries.

**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : FUSABOND® E158 resin  
MSDS Number : 130000021067

Manufacturer : DuPont  
1007 Market Street  
Wilmington, DE 19898

Product Information : 1-800-441-7515 (outside the U.S. 1-302-774-1000)  
Medical Emergency : 1-800-441-3637 (outside the U.S. 1-302-774-1139)  
Transport Emergency : CHEMTREC: 1-800-424-9300 (outside the U.S. 1-703-527-3887)

**SECTION 2. HAZARDS IDENTIFICATION**

## Potential Health Effects

## Skin

Maleic anhydride : Causes skin burns. May cause allergic skin reaction.

## Eyes

: Resin particles, like other inert materials, are mechanically irritating to eyes.

## Inhalation

Maleic anhydride : May cause allergic respiratory reaction. Headache, Nausea, Respiratory tract irritation, Allergy or asthma-like reactions with symptoms of wheezing, chest tightness, difficulty breathing, Fluid in the lungs (pulmonary oedema) with cough, wheezing, abnormal lung sounds, possibly progressing to severe shortness of breath and bluish discoloration of the skin (symptoms might be delayed).

## Ingestion

: Is not considered a potential route of exposure.

## Carcinogenicity

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, or OSHA, as a carcinogen.

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**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	CAS-No.	Concentration
MALEIC ANHYDRIDE MODIFIED POLYOLEFIN BLEND		>99%
Maleic anhydride	108-31-6	<0.1 %

**SECTION 4. FIRST AID MEASURES**

- Skin contact : In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash contaminated clothing before reuse. The material is not likely to be hazardous by skin contact, but cleansing the skin after use is advisable. Cool skin rapidly with cold water after contact with molten material. Do not attempt to remove material from the skin. Obtain medical treatment for thermal burn.
- Eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.
- Inhalation : If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.
- Ingestion : Not a probable route of exposure. However, in case of accidental ingestion, call a physician.

**SECTION 5. FIREFIGHTING MEASURES**

- Flammable Properties
- Flash point : no data available
- Autoignition temperature : ca. 350 °C (662 °F)

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- Fire and Explosion Hazard : Material in pellet form may accumulate static charge when poured from one container to another. Failure or malfunction of temperature control systems on processing equipment, such as extruders, may create explosion hazards. Molten polyethylene tends to flow or drip and will propagate fire.
- Suitable extinguishing media : Water, Foam, Dry chemical, Carbon dioxide (CO2)
- Firefighting Instructions : Wear self-contained breathing apparatus (SCBA).  
The solid polymer can only be burned with difficulty. Evacuate personnel and keep upwind of fire. Grounding and elimination of the static charge is recommended.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

- Spill Cleanup : Shovel or sweep up.
- Accidental Release Measures : Do not discharge to streams, ponds, lakes or sewers.

**SECTION 7. HANDLING AND STORAGE**

- Handling (Personnel) : Before using, read the product bulletin.
- Handling (Physical Aspects) : When opening containers, avoid breathing vapours that may be emanating.
- Storage : Keep containers dry and tightly closed to avoid moisture absorption and contamination. Store in a cool, dry place.

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

- Engineering controls : See Bulletin "Proper Use of Local Exhaust Ventilation During Processing of Plastics". When hot processing this material, use local and/or general exhaust ventilation to maintain the concentration of vapors and fumes below exposure



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limits. Use static controls. Static charges can cause explosions in solvent and dust laden atmospheres.

Personal protective equipment

Respiratory protection : A respiratory protection program that meets country requirements must be followed whenever workplace conditions warrant respirator use. Consult the respirator manufacturer to determine the appropriate type of equipment for a given application. Observe respirator use limitations specified by the manufacturer.  
Consult the OSHA respiratory protection information located at 29CFR 1910.134.

Hand protection : Additional protection: Protective gloves

Eye protection : Wear safety glasses with side shields. Wear tightly fitting chemical splash goggles and face shield when possibility exists for eye and face contact due to spattering or splashing of molten material.

Skin and body protection : Where there is potential for skin contact, have available and wear as appropriate, impervious gloves, apron, pants, jacket, hood and boots. If there is a potential for contact with hot/molten material wear heat resistant clothing and footwear.

Exposure Guidelines

Exposure Limit Values

Dust (inhalable and respirable fraction)

PEL:	(OSHA)	5 mg/m3	8 hr. TWA	Respirable fraction.
		Remarks		All inert or nuisance dusts, whether mineral, inorganic, or organic, not listed specifically by substance name are covered by the Particulates Not Otherwise Regulated (PNOR) limit which is the same as the inert or nuisance dust limit of Table Z-3.

PEL:	(OSHA)	15 mg/m3	8 hr. TWA	Total dust.
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TLV	(ACGIH)	10 mg/m3	TWA	Inhalable particles.
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TLV	(ACGIH)	3 mg/m3	TWA	Respirable particles.
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Maleic anhydride

PEL:	(OSHA)	0.25 ppm	1 mg/m3	8 hr. TWA
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PEL:	(OSHA)	0.25 ppm	1 mg/m <sup>3</sup>	8 hr. TWA
TLV	(ACGIH)	0.1 ppm	TWA	
TLV	(ACGIH)	0.01 mg/m <sup>3</sup>	TWA	
AEL *	(DUPONT)	0.1 ppm	8 & 12 hr. TWA	

## White mineral oil (petroleum)

PEL:	(OSHA)	5 mg/m <sup>3</sup>	8 hr. TWA	Mist.
TLV	(ACGIH)	5 mg/m <sup>3</sup>	TWA	Mist.
TLV	(ACGIH)	10 mg/m <sup>3</sup>	STEL	Mist.
TLV	(ACGIH)	5 mg/m <sup>3</sup>	TWA	Inhalable fraction.

\* AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Form	: solid
Color	: clear or pigmented
	: 130 °C (266 °F)
Specific gravity	: < 1

**SECTION 10. STABILITY AND REACTIVITY**

Stability	: Stable at normal temperatures and storage conditions.
Conditions to avoid	: Temperature > 290 °C (> 554 °F) Abnormally long processing time or high temperatures can produce irritating and toxic fumes. Decomposes on heating.


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- Incompatibility : strong oxidants at high temperatures
- Hazardous decomposition products : Decomposition is a function of both processing temperature and time at that temperature.  
Decomposition can occur below the recommended processing temperature limit.  
At temperatures above the "conditions to avoid" temperature, thermal decomposition of the resin becomes rapid.  
Hazardous decomposition products: Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke), phosphorous oxides , Acrolein  
Decomposition products may vary in nature depending upon actual conditions, eg. availability of oxygen, temperature and presence of other materials.
- Hazardous reactions : Polymerization will not occur.

**SECTION 11. TOXICOLOGICAL INFORMATION**
**Maleic anhydride**

- Dermal LD50 : 2,620 mg/kg , rabbit
- Oral LD50 : 1,000 mg/kg , rat
- Inhalation : human  
Nasal irritation
- Skin irritation : Corrosive
- Eye irritation : Corrosive
- Skin sensitization : guinea pig  
Causes sensitization.
- rat  
May cause sensitization by inhalation.
- human  
There are rare or inconclusive reports of human skin sensitization.
- Carcinogenicity : Animal testing did not show any carcinogenic effects.

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Mutagenicity	:	Did not cause genetic damage in cultured bacterial cells. Caused genetic damage in cultured mammalian cells. Evidence suggests this substance does not cause genetic damage in animals.
Reproductive toxicity	:	No toxicity to reproduction
Teratogenicity	:	Animal testing showed no developmental toxicity.

**SECTION 12. ECOLOGICAL INFORMATION**

Aquatic Toxicity	
Maleic anhydride	
96 h LC50	: Pimephales promelas (fathead minnow) 83.5 mg/l
96 h LC50	: Oncorhynchus mykiss (rainbow trout) 75 mg/l
48 h LC50	: Daphnia magna (Water flea) 330 mg/l
Additional ecological information	: No data is available on the product itself. Toxicity is expected to be low based on insolubility in water.

**SECTION 13. DISPOSAL CONSIDERATIONS**

Waste Disposal	:	Preferred options for disposal are recycling, incineration with energy recovery, and landfill. The high fuel value of this product makes incineration very desirable for material that cannot be recycled. Treatment, storage, transportation, and disposal must be in accordance with applicable federal, state/provincial, and local regulations.
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**SECTION 14. TRANSPORT INFORMATION**

Not classified as dangerous in the meaning of transport regulations.

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**SECTION 15. REGULATORY INFORMATION**

- TSCA Status : In compliance with TSCA Inventory requirements for commercial purposes.
- SARA 313 Regulated Chemical(s) : SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.
- CERCLA Reportable Quantity : 9,174 lbs  
Based on the percentage composition of this chemical in the product.:  
Zinc oxide
- California Prop. 65 : Chemicals known to the State of California to cause cancer, birth defects or any other harm: none known
- PA Right to Know Regulated Chemical(s) : Substances on the Pennsylvania Hazardous Substances List present at a concentration of 1% or more (0.01% for Special Hazardous Substances):  
None known.
- NJ Right to Know Regulated Chemical(s) : Substances on the New Jersey Workplace Hazardous Substance List present at a concentration of 1% or more (0.1% for substances identified as carcinogens, mutagens or teratogens): None known.

**SECTION 16. OTHER INFORMATION**

- Restrictions for use : Do not use DuPont materials in medical applications involving implantation in the human body or contact with internal body fluids or tissues unless the material has been provided from DuPont under a written contract that is consistent with DuPont policy regarding medical applications and expressly acknowledges the contemplated use. For further information, please contact your DuPont representative. You may also request a copy of the DuPont POLICY Regarding Medical Applications H-50103-3 and DuPont CAUTION Regarding Medical Applications H-50102-3.

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