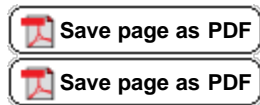




MSDS Name: **DEVCON® Flexane® High Performance Putty**  
 Manufacturer Name: ITW Devcon  
 Stock No.: 15330  
 Kit MSDS Revision Date: 1/15/2011

Components	
	FLEXANE HIGH PERFORMANCE PUTTY CURING AGENT
	FLEXANE HIGH PERFORMANCE PUTTY RESIN
ITW Devcon Product Code : 15330	



## SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

Product Name: **FLEXANE HIGH PERFORMANCE PUTTY CURING AGENT**  
 Manufacturer Name: ITW Devcon  
 Address: 30 Endicott Street  
 Danvers, MA 01923  
 General Phone Number: (978) 777-1100  
 Emergency Phone Number: (800) 424-9300  
 CHEMTREC: For emergencies in the US, call CHEMTREC: 800-424-9300  
 Canutec: In Canada, call CANUTEC: (613) 996-6666 (call collect)  
 MSDS Revision Date: 1/15/2011

HMIS	
Health Hazard	2*
Fire Hazard	1
Reactivity	0
Personal Protection	x

\* Chronic Health Effects

## SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent
Diethyltoluenediamine	68479-98-1	60 - 100 by weight
Carbon black	1333-86-4	5 - 10 by weight
Dipropylene glycol dibenzoate	27138-31-4	10 - 30 by weight
Epoxidized soybean oil	8013-07-8	10 - 30 by weight

## SECTION 3 - HAZARDS IDENTIFICATION

Emergency Overview: WARNING! Harmful. Irritant.  
 Route of Exposure: Eyes. Skin. Inhalation. Ingestion.  
 Potential Health Effects:  
 Eye: Can cause severe eye irritation and burns. Eye contact may cause permanent

	damage or blindness.
<b>Skin:</b>	Causes severe skin irritation. May cause permanent skin damage.
<b>Inhalation:</b>	Vapor or mist may cause severe respiratory system irritation.
<b>Ingestion:</b>	Causes irritation, a burning sensation of the mouth, throat and gastrointestinal tract and abdominal pain.
<b>Chronic Health Effects:</b>	Prolonged skin contact may lead to burning associated with severe reddening, swelling, and possible tissue destruction.
<b>Signs/Symptoms:</b>	Overexposure may cause eye watering or discomfort, redness and swelling.
<b>Target Organs:</b>	Eyes. Skin. Respiratory system. Digestive system.
<b>Aggravation of Pre-Existing Conditions:</b>	May aggravate pre-existing respiratory disorders, allergy, eczema, or skin conditions.

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## SECTION 4 - FIRST AID MEASURES

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<b>Eye Contact:</b>	Immediately flush eyes with plenty of water for at least 15 to 20 minutes. Ensure adequate flushing of the eyes by separating the eyelids with fingers. Get immediate medical attention.
<b>Skin Contact:</b>	Immediately wash skin with plenty of soap and water for 15 to 20 minutes, while removing contaminated clothing and shoes. Get medical attention if irritation develops or persists.
<b>Inhalation:</b>	If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.
<b>Ingestion:</b>	If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

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## SECTION 5 - FIRE FIGHTING MEASURES

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<b>Flammable Properties:</b>	Material supports combustion.
<b>Flash Point:</b>	>275°F (135°C)
<b>Flash Point Method:</b>	Tag Closed Cup (TCC)
<b>Auto Ignition Temperature:</b>	Not determined.
<b>Lower Flammable/Explosive Limit:</b>	Not determined.
<b>Upper Flammable/Explosive Limit:</b>	Not determined.
<b>Fire Fighting Instructions:</b>	Evacuate area of unprotected personnel. Use cold water spray to cool fire exposed containers to minimize risk of rupture. Do not enter confined fire space without full protective gear. If possible, contain fire run-off water.
<b>Extinguishing Media:</b>	Use carbon dioxide (CO <sub>2</sub> ) or dry chemical when fighting fires involving this material.
<b>Unsuitable Media:</b>	Water or foam may cause frothing.
<b>Protective Equipment:</b>	As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.

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## SECTION 6 - ACCIDENTAL RELEASE MEASURES

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<b>Spill Cleanup Measures:</b>	Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Provide ventilation. Clean up spills immediately observing precautions in the protective equipment section. After removal, flush spill area with soap and water to remove trace residue. Avoid personal contact and breathing vapors or mists. Ventilate area. Use proper personal protective equipment as listed in section 8.
<b>Personnel Precautions:</b>	Evacuate area and keep unnecessary and unprotected personnel from entering the spill area.
<b>Environmental Precautions:</b>	Avoid runoff into storm sewers, ditches, and waterways.
<b>Other Precautions:</b>	Pump or shovel to storage/salvage vessels.

## SECTION 7 - HANDLING and STORAGE

Handling:	Use with adequate ventilation. Avoid breathing vapor, aerosol or mist.
Storage:	Store in a cool, dry, well ventilated area away from sources of heat and incompatible materials. Keep container tightly closed when not in use. Do not store in reactive metal containers. Keep away from acids, oxidizers.
Special Handling Procedures:	Provide appropriate ventilation/respiratory protection against decomposition products (see Section 10) during welding/flame cutting operations and to protect against dust during sanding/grinding of cured product.
Hygiene Practices:	Wash thoroughly after handling.

## SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION - EXPOSURE GUIDELINES

Engineering Controls:	Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation should be sufficient to control airborne levels. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.
Eye/Face Protection:	Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166.
Skin Protection Description:	Wear appropriate protective gloves and other protective apparel to prevent skin contact. Consult manufacturer's data for permeability data.
Respiratory Protection:	A NIOSH approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.
Other Protective:	Facilities storing or utilizing this material should be equipped with an eyewash and a deluge shower safety station.

### EXPOSURE GUIDELINES

#### Carbon black:

Guideline ACGIH:	3.5 mg/m <sup>3</sup> TLV-TWA: 3.5 mg/m <sup>3</sup>
Notes :	Only established PEL and TLV values for the ingredients are listed.

## SECTION 9 - PHYSICAL and CHEMICAL PROPERTIES

Physical State Appearance:	Liquid..
Color:	Mobile Black..
Odor:	mild ammonia like.
Boiling Point:	>450°F (232.2°C)
Melting Point:	Not determined.
Specific Gravity:	1.05
Solubility:	negligible
Vapor Density:	>1 (air = 1)
Vapor Pressure:	<1 mmHg @70°F
Percent Volatile:	0
Evaporation Rate:	<<1 (butyl acetate = 1)
pH:	7-8 @ 5 Percent Solution

Molecular Formula:	Mixture
Molecular Weight:	Mixture
Flash Point:	>275°F (135°C)
Flash Point Method:	Tag Closed Cup (TCC)
Auto Ignition Temperature:	Not determined.
VOC Content:	0 g/L
Percent Solids by Weight	100

## SECTION 10 - STABILITY and REACTIVITY

Chemical Stability:	Stable under normal temperatures and pressures.
Hazardous Polymerization:	Not reported.
Conditions to Avoid:	Extreme heat, sparks, and open flame. Incompatible materials, oxidizers and oxidizing conditions.
Incompatible Materials:	Oxidizers, acids, and chlorinated organic compounds. Reactive metals (e.g. sodium, calcium, zinc). Sodium/calcium hypochlorite. Nitrous acid/ oxide, nitrites. Peroxides. Materials reactive with hydroxyl compounds.

## SECTION 11 - TOXICOLOGICAL INFORMATION

### Diethyltoluenediamine:

RTECS Number:	CZ1583125
Ingestion:	Oral - Rat LD50 : 472 mg/kg [Sense Organs and Special Senses (Eye) - Lacrimation Behavioral - Somnolence (general depressed activity) Musculoskeletal - Other changes]

### Carbon black:

RTECS Number:	FF5800000
Skin:	Administration onto the skin - Rabbit : >3 gm/kg [Details of toxic effects not reported other than lethal dose value] Administration onto the skin - Rat : 11 gm/kg/4W (Intermittent) [Blood - Pigmented or nucleated red blood cells Liver - Changes in liver weight Nutritional and Gross Metabolic - Weight loss or decreased weight gain]
Ingestion:	Oral - Rat LD50: >15400 mg/kg [Behavioral - Somnolence (general depressed activity)]
Carcinogenicity:	IARC: Group 2B: Possibly carcinogenic to humans.

### Epoxidized soybean oil:

RTECS Number:	LL1100000
Skin:	Administration onto the skin - Rabbit LD50 : >20 mL/kg [Details of toxic effects not reported other than lethal dose value] Administration onto the skin - Rabbit Open irritation test: 500 mg [mild]
Ingestion:	Oral - Rat LD50 : 22500 uL/kg [Details of toxic effects not reported other than lethal dose value]

## SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity:	No ecotoxicity data was found for the product.
Environmental Fate:	No environmental information found for this product.

## SECTION 13 - DISPOSAL CONSIDERATIONS

Waste Disposal:	Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with
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your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines.

RCRA Number: None.

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## SECTION 14 - TRANSPORT INFORMATION

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DOT Shipping Name: Non regulated.  
 DOT UN Number: N/A  
 DOT Hazard Class: Not applicable.  
 DOT Packing Group: Not applicable.

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## SECTION 15 - REGULATORY INFORMATION

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### Diethyltoluenediamine :

TSCA Inventory Status: Listed  
 Canada DSL: Listed

### Carbon black :

TSCA Inventory Status: Listed  
 California PROP 65: Listed: cancer  
 Massachusetts: Listed  
 Pennsylvania: Listed  
 Canada DSL: Listed

### Dipropylene glycol dibenzoate :

TSCA Inventory Status: Listed  
 Canada DSL: Listed

### Epoxidized soybean oil :

TSCA Inventory Status: Listed  
 Canada DSL: Listed  
 Canadian Regulations: WHMIS Hazard Class(es): D2B

All components of this product are on the Canadian Domestic Substances List.

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## SECTION 16 - ADDITIONAL INFORMATION

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HMIS Fire Hazard: 1  
 HMIS Health Hazard: 2\*  
 HMIS Reactivity: 0  
 HMIS Personal Protection: x  
 MSDS Revision Date: 1/15/2011  
 MSDS Author: Actio Corporation

**Disclaimer:** This Health and Safety Information is correct to the best of our knowledge and belief at the date of its publication but we cannot accept liability for any loss, injury or damage which may result from its use. The information given in the Data Sheet is designed only as a guidance for safe handling, storage and the use of the substance. It is not a specification nor does it guarantee any specific properties. All chemicals should be handled only by competent personnel, within a controlled environment.

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## SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

Product Name: **FLEXANE HIGH PERFORMANCE PUTTY RESIN**  
 Manufacturer Name: ITW Devcon  
 Address: 30 Endicott Street  
 Danvers, MA 01923  
 General Phone Number: (978) 777-1100  
 Emergency Phone Number: (800) 424-9300  
 CHEMTREC: For emergencies in the US, call CHEMTREC: 800-424-9300  
 Canutec: In Canada, call CANUTEC: (613) 996-6666 (call collect)  
 MSDS Revision Date: 1/15/2011

HMIS	
Health Hazard	3*
Fire Hazard	3
Reactivity	1
Personal Protection	x

\* Chronic Health Effects

## SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent
Proprietary	N/A	60 - 100 by weight
Methyl ethyl ketone	78-93-3	10 - 30 by weight
2,6-Di-tertiary-butyl-para-cresol	128-37-0	1 - 5 by weight
4,4'-Diphenylmethane diisocyanate	101-68-8	1 - 5 by weight
2,4-Toluene diisocyanate	584-84-9	1 - 5 by weight

## SECTION 3 - HAZARDS IDENTIFICATION

**Emergency Overview:** WARNING! Flammable. Suspect Carcinogen. Potential Sensitizer. Irritant.  
**Route of Exposure:** Eyes. Skin. Inhalation. Ingestion.  
**Potential Health Effects:**  
**Eye:** Can cause moderate irritation, burning sensation, tearing, redness, and swelling. Overexposure may cause lacrimation, conjunctivitis, corneal damage and permanent injury..  
**Skin:** Can cause skin irritation; itching, redness, rashes, hives, burning, and swelling. Allergic reactions are possible. May cause skin sensitization, an allergic reaction, which becomes evident on reexposure to this material.  
**Inhalation:** Respiratory tract irritant. High concentration may cause dizziness, headache, and anesthetic effects. May cause respiratory sensitization with asthma-like symptoms in susceptible individuals.  
**Ingestion:** Causes irritation, a burning sensation of the mouth, throat and gastrointestinal tract and abdominal pain.  
**Chronic Health Effects:** Prolonged skin contact may lead to burning associated with severe reddening, swelling, and possible tissue destruction.  
**Signs/Symptoms:** Overexposure can cause headaches, dizziness, nausea, and vomiting.  
**Target Organs:** Eyes. Skin. Respiratory system. Digestive system. Central nervous system.  
**Aggravation of Pre-Existing Conditions:** Individuals with pre-existing skin disorders, asthma, allergies or known sensitization may be more susceptible to the effects of this product. Isocyanate exposure levels must be monitored. Medical supervision of all employees who handle or come in contact with isocyanates is recommended (i.e. FEV, FVC). This should include pre-employment and periodic medical examinations. Persons with asthmatic-type conditions, chronic bronchitis, other chronic respiratory diseases, recurrent skin eczema or sensitization should be excluded from working with this product. Once sensitized no further exposure can be permitted.

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**SECTION 4 - FIRST AID MEASURES**

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<b>Eye Contact:</b>	Immediately flush eyes with plenty of water for at least 15 to 20 minutes. Ensure adequate flushing of the eyes by separating the eyelids with fingers. Get immediate medical attention.
<b>Skin Contact:</b>	Immediately wash skin with plenty of soap and water for 15 to 20 minutes, while removing contaminated clothing and shoes. Get medical attention if irritation develops or persists.
<b>Inhalation:</b>	If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.
<b>Ingestion:</b>	If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.
<b>Note to Physicians:</b>	Asthmatic type symptoms may develop, which may be immediate or delayed for several hours.
<b>Other First Aid:</b>	Due to possible aspiration into the lungs, DO NOT induce vomiting if ingested. Provide a glass of water to dilute the material in the stomach. If vomiting occurs naturally, have the person lean forward to reduce the risk of aspiration.

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**SECTION 5 - FIRE FIGHTING MEASURES**

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<b>Flammable Properties:</b>	Flammable. Flammable liquid Class I B.
<b>Flash Point:</b>	24°F (-4.4°C)
<b>Flash Point Method:</b>	Tag Closed Cup (TCC)
<b>Auto Ignition Temperature:</b>	Not determined.
<b>Lower Flammable/Explosive Limit:</b>	1.8%
<b>Upper Flammable/Explosive Limit:</b>	11.5%
<b>Fire Fighting Instructions:</b>	Evacuate area of unprotected personnel. Use cold water spray to cool fire exposed containers to minimize risk of rupture. Do not enter confined fire space without full protective gear. If possible, contain fire run-off water.
<b>Extinguishing Media:</b>	Use carbon dioxide (CO <sub>2</sub> ) or dry chemical when fighting fires involving this material.
<b>Protective Equipment:</b>	As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.
<b>Unusual Fire Hazards:</b>	Do not reseal containers if contaminated with water, resin will react with water to release carbon dioxide. As a result of the water contamination, pressure will build up in the sealed container causing it to rupture.

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**SECTION 6 - ACCIDENTAL RELEASE MEASURES**

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<b>Spill Cleanup Measures:</b>	Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Provide ventilation. Collect spill with a non-sparking tool. Place into a suitable container for disposal. Clean up spills immediately observing precautions in the protective equipment section. Neutralize residue with appropriate neutralizer. Do not attempt to neutralize large quantities of material unless measures to control reactivity and heat generation have been taken. Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Provide ventilation. After removal, flush spill area with soap and water to remove trace residue. Flammable, eliminate ignition sources. Vapors can form an ignitable mixture with air. . Vapors can flow along surfaces to distant ignition sources and flash back. Ventilate area. Use proper personal protective equipment as listed in section 8. A blanket of protein foam may be placed over spill for temporary control of isocyanate vapor.
<b>Personnel Precautions:</b>	Evacuate area and keep unnecessary and unprotected personnel from entering the spill area.
<b>Environmental Precautions:</b>	Avoid runoff into storm sewers, ditches, and waterways.

<b>Other Precautions:</b>	Pump large quantities into closed but not sealed metal containers. Isocyanates will react with water and generate carbon dioxide, this could result in the rupture of any closed containers. Neutralize using 10 parts neutralizer to 1 part isocyanate solution. Mix and allow to stand for 48 hrs in containers, letting evolved carbon dioxide to vent. Neutralizer consist of 90% water, 3-8% concentrated ammonia (or sodium carbonate), 2% detergent.
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## SECTION 7 - HANDLING and STORAGE

<b>Handling:</b>	Use with adequate ventilation. Avoid breathing vapor, aerosol or mist. Material will accumulate static charges which may cause an electrical spark (ignition source). Use proper grounding procedures. Do not reuse containers without proper cleaning or reconditioning.
<b>Storage:</b>	Store in a cool, dry, well ventilated area away from sources of heat, combustible materials, direct sunlight, and incompatible substances. Keep container tightly closed when not in use. Do not reseal container If moisture or water contamination is suspected. Water contaminated material in a sealed container may rupture due to pressure buildup.
<b>Special Handling Procedures:</b>	Provide appropriate ventilation/respiratory protection against decomposition products (see Section 10) during welding/flame cutting operations and to protect against dust during sanding/grinding of cured product. Hazardous liquid or vapor residue may remain in emptied container. Do not reuse, heat, burn, pressurize, cut, weld, braze, solder, drill, grind, expose to sparks, flame, or ignition sources of empty containers without proper commercial cleaning or reconditioning.
<b>Hygiene Practices:</b>	Wash thoroughly after handling.

## SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION - EXPOSURE GUIDELINES

<b>Engineering Controls:</b>	Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation should be sufficient to control airborne levels. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.
<b>Eye/Face Protection:</b>	Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166.
<b>Skin Protection Description:</b>	Wear appropriate protective gloves and other protective apparel to prevent skin contact. Consult manufacturer's data for permeability data.
<b>Respiratory Protection:</b>	A NIOSH approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.
<b>Other Protective:</b>	Facilities storing or utilizing this material should be equipped with an eyewash and a deluge shower safety station.

### EXPOSURE GUIDELINES

#### Methyl ethyl ketone:

Guideline ACGIH: 200 ppm  
TLV-STEL: 300 ppm  
TLV-TWA: 200 ppm

Guideline OSHA: 200 ppm  
PEL-TWA: 200 ppm

#### 2,6-Di-tertiary-butyl-para-cresol:

Guideline ACGIH: 2 mg/m<sup>3</sup>  
TLV-TWA: 2 mg/m<sup>3</sup> Inhalable vapor fraction (IVF)



**4,4'-Diphenylmethane diisocyanate:**

Guideline ACGIH: 0.005 ppm  
TLV-TWA: 0.005 ppm

Guideline OSHA: PEL-Ceiling/Peak: 0.02 ppm

**2,4-Toluene diisocyanate:**

Guideline ACGIH: 0.005 ppm  
Sensitizer.: Sen  
Skin: yes  
TLV-STEL: 0.003 ppm Inhalable vapor fraction (IVF)  
TLV-STEL: 0.02 ppm  
TLV-TWA: 0.001 ppm Inhalable vapor fraction (IVF)  
TLV-TWA: 0.005 ppm

Guideline OSHA: PEL-Ceiling/Peak: 0.02 ppm

Notes : Only established PEL and TLV values for the ingredients are listed.

**SECTION 9 - PHYSICAL and CHEMICAL PROPERTIES**

Physical State Appearance: Liquid..

Color: Clear Yellow.

Odor: Sweet.

Boiling Point: 152°F (66.6°C)

Melting Point: Not determined.

Specific Gravity: 0.99

Solubility: Slight; reacts

Vapor Density: 3.94 (air = 1)

Vapor Pressure: 65 mmHg @68°F

Percent Volatile: 20

Evaporation Rate: >1 (butyl acetate = 1)

pH: 5 @ 5 Percent Solution

Molecular Formula: Mixture

Molecular Weight: Mixture

Flash Point: 24°F (-4.4°C)

Flash Point Method: Tag Closed Cup (TCC)

Auto Ignition Temperature: Not determined.

VOC Content: 198 g/L

Percent Solids by Weight 80

**SECTION 10 - STABILITY and REACTIVITY**

Chemical Stability: Stable under normal temperatures and pressures.

Hazardous Polymerization: Polymerization may occur under certain conditions.

Conditions to Avoid: Extreme heat, sparks, and open flame. Incompatible materials, oxidizers and oxidizing conditions. Moisture and extended exposure over 85 F.

Incompatible Materials: Alcohols, amines, strong bases (alkali, ammonia), acids, metal compounds, moisture or water. Resin reacts with water to give off carbon dioxide.

**SECTION 11 - TOXICOLOGICAL INFORMATION****Methyl ethyl ketone:**

RTECS Number: EL6475000

Eye: Eye - Human Standard Draize test.: 350 ppm  
Eye - Rabbit Standard Draize test.: 80 mg

Skin: Administration onto the skin - Rabbit : 6480 mg/kg [Details of toxic effects not

reported other than lethal dose value]  
 Administration onto the skin - Rabbit : 500 mg/24H  
 Administration onto the skin - Rabbit : 402 mg/24H  
 Administration onto the skin - Rabbit : 14 mg/24H

**Inhalation:** Inhalation - Rat LC50: 23500 mg/m<sup>3</sup>/8H [Details of toxic effects not reported other than lethal dose value]  
 Inhalation - Mouse LC50: 32 gm/m<sup>3</sup>/4H [Details of toxic effects not reported other than lethal dose value]  
 Inhalation - Rat LC50: 23500 mg/m<sup>3</sup> [Details of toxic effects not reported other than lethal dose value]  
 Inhalation - Mouse LC50: 32 mg/m<sup>3</sup> [Details of toxic effects not reported other than lethal dose value]

**Ingestion:** Oral - Mouse LD50: 3000 mg/kg [Details of toxic effects not reported other than lethal dose value]  
 Oral - Rat LD50: 2737 mg/kg [Details of toxic effects not reported other than lethal dose value]

#### 2,6-Di-tertiary-butyl-para-cresol:

**RTECS Number:** GO7875000

**Eye:** Eye - Rabbit Standard Draize test.: 100 mg/24H

**Skin:** Administration onto the skin - Rat : >2000 mg/kg [Details of toxic effects not reported other than lethal dose value]  
 Administration onto the skin - Mouse : 5 gm/kg/4W (Intermittent) [Lungs, Thorax, or Respiration - Changes in lung weight Related to Chronic Data - death]  
 Administration onto the skin - Human : 500 mg/48H  
 Administration onto the skin - Rabbit : 500 mg/48H

**Ingestion:** Oral - Mouse LD50: 650 mg/kg [Behavioral - Tremor Lungs, Thorax, or Respiration - Chronic pulmonary edema]  
 Oral - Mouse LD50: 650 mg/kg [Behavioral - Tremor Behavioral - Ataxia Lungs, Thorax, or Respiration - Other changes]  
 Oral - Rat LD50: 890 mg/kg [Details of toxic effects not reported other than lethal dose value]  
 Oral - Mouse LD50: 1040 mg/kg [Details of toxic effects not reported other than lethal dose value]

#### 4,4'-Diphenylmethane diisocyanate:

**RTECS Number:** NQ9350000

**Eye:** Eye - Rabbit Standard Draize test.: 100 mg

**Skin:** Administration onto the skin - Mouse : 0.09 pph/2D (Intermittent) [Blood - Other changes Skin and Appendages - Cutaneous sensitization, experimental (After topical exposure)]  
 Administration onto the skin - Mouse : 220 mg/kg/12D (Intermittent) [Skin and Appendages - Cutaneous sensitization, experimental (After topical exposure) Biochemical - Metabolism (Intermediary) - Other proteins Biochemical - Metabolism (Intermediary) - Effect on inflammation or mediation of inflammation]  
 Administration onto the skin - Mouse : 2 pph/2W (Intermittent) [Immunological Including Allergic - Increase in humoral immune response]  
 Administration onto the skin - Mouse : 2 pph/4W (Intermittent) [Immunological Including Allergic - Increase in humoral immune response]  
 Administration onto the skin - Mouse : 280 mg/kg/14D (Intermittent) [Immunological Including Allergic - Increase in humoral immune response]  
 Administration onto the skin - Rabbit : 500 mg/24H

**Inhalation:** Inhalation - Rat LC50: 178 mg/m<sup>3</sup> [Details of toxic effects not reported other than lethal dose value]

**Ingestion:** Oral - Rat LD50: 9200 mg/kg [Behavioral - Somnolence (general depressed activity) Behavioral - Ataxia Nutritional and Gross Metabolic - Body temperature decrease]  
 Oral - Mouse LD50: 2200 mg/kg [Details of toxic effects not reported other than lethal dose value]

#### 2,4-Toluene diisocyanate:

**RTECS Number:** CZ6300000

**Eye:** Eye - Rabbit Standard Draize test.: 100 mg

**Skin:** Administration onto the skin - Rabbit : >16 mL/kg [Details of toxic effects not reported other than lethal dose value]  
 Administration onto the skin - Mouse : 240 mg/kg/28D (Intermittent) [Immunological Including Allergic - Increase in humoral immune response]  
 Administration onto the skin - Mouse : 0.03 mL/kg/3D (Intermittent) [Skin and Appendages - Cutaneous sensitization, experimental (After topical exposure)]  
 Administration onto the skin - Mouse : 1.8 ul/kg/3D (Intermittent) [Skin and

	<p>Appendages - Cutaneous sensitization, experimental (After topical exposure)]  Administration onto the skin - Mouse : 18 ul/kg/17D (Intermittent) [Skin and  Appendages - Cutaneous sensitization, experimental (After topical exposure)]  Administration onto the skin - Mouse : 18.2 ul/kg/31D (Intermittent) [Skin and  Appendages - Cutaneous sensitization, experimental (After topical exposure)  Immunological Including Allergic - Increased immune response]  Administration onto the skin - Mouse : 1.7 mg/kg/17D (Intermittent)  [Immunological Including Allergic - Increase in cellular immune response  Immunological Including Allergic - Increase in humoral immune response]  Administration onto the skin - Mouse : 90 mg/kg/3D (Intermittent)  [Immunological Including Allergic - Increase in humoral immune response  Biochemical - Metabolism (Intermediary) - Other proteins Biochemical -  Metabolism (Intermediary) - Effect on inflammation or mediation of  inflammation]  Administration onto the skin - Mouse : 4.8 mg/kg/8D (Intermittent) [Lungs,  Thorax, or Respiration - Other changes Biochemical - Metabolism  (Intermediary) - Effect on inflammation or mediation of inflammation]  Administration onto the skin - Mouse : 800 mg/kg/4D (Intermittent)  [Immunological Including Allergic - Increased immune response Biochemical -  Metabolism (Intermediary) - Effect on inflammation or mediation of  inflammation]  Administration onto the skin - Mouse : 15 mg/kg/3D (Intermittent) [Skin and  Appendages - Cutaneous sensitization, experimental (After topical exposure)  Biochemical - Metabolism (Intermediary) - Effect on inflammation or mediation  of inflammation]  Administration onto the skin - Rabbit : 500 mg  Administration onto the skin - Rabbit : 500 mg/24H</p>
<b>Inhalation:</b>	<p>Inhalation - Rat LC50: 14 ppm/4H [Sense Organs and Special Senses (Eye) -  Lacrimation Behavioral - Excitement Lungs, Thorax, or Respiration - Dyspnea]  Inhalation - Mouse LC50: 10 ppm/4H [Lungs, Thorax, or Respiration -  Structural or functional change in trachea or bronchi Lungs, Thorax, or  Respiration - Changes in pulmonary vascular resistance]  Inhalation - Rat LC50: 14 ppm/4H [Details of toxic effects not reported other  than lethal dose value]  Inhalation - Mouse LC50: 10 ppm/4H [Details of toxic effects not reported  other than lethal dose value]</p>
<b>Ingestion:</b>	<p>Oral - Rat LD50: 5800 mg/kg [Gastrointestinal - Other changes]</p>

## SECTION 12 - ECOLOGICAL INFORMATION

<b>Ecotoxicity:</b>	No ecotoxicity data was found for the product.
<b>Environmental Fate:</b>	No environmental information found for this product.

## SECTION 13 - DISPOSAL CONSIDERATIONS

<b>Waste Disposal:</b>	Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines.
<b>RCRA Number:</b>	D001, D035
<b>Important Disposal Information:</b>	DANGER! Rags, steel wool and waste soaked with this product may spontaneously catch fire if improperly discarded or stored. To avoid a spontaneous combustion fire, immediately after use, place rags, steel wool or waste in a sealed, water-filled, metal container.

## SECTION 14 - TRANSPORT INFORMATION

<b>DOT Shipping Name:</b>	Resin solution
<b>DOT UN Number:</b>	1866

DOT Hazard Class: 3  
 DOT Packing Group: II  
 DOT Exemption: ORM-D Small quantity exemption

## SECTION 15 - REGULATORY INFORMATION

### Methyl ethyl ketone :

TSCA Inventory Status: Listed  
 SARA: EPCRA - 40 CFR Part 372 - (SARA Title III) Section 313 Listed Chemical.  
 New Jersey: Listed: NJ Hazardous EHS List  
 Massachusetts: Listed: Massachusetts Oil and Hazardous List  
 Pennsylvania: Listed  
 Canada DSL: Listed

### 2,6-Di-tertiary-butyl-para-cresol :

TSCA Inventory Status: Listed  
 Massachusetts: Listed  
 Pennsylvania: Listed  
 Canada DSL: Listed

### 4,4'-Diphenylmethane diisocyanate :

TSCA Inventory Status: Listed  
 SARA: EPCRA - 40 CFR Part 372 - (SARA Title III) Section 313 Listed Chemical.  
 New Jersey: Listed: NJ Hazardous List; Substance Number: 3757  
 Massachusetts: Listed  
 Pennsylvania: Listed  
 Canada DSL: Listed

### 2,4-Toluene diisocyanate :

TSCA Inventory Status: Listed  
 SARA: EPCRA - 40 CFR Part 372 - (SARA Title III) Section 313 Listed Chemical.  
 Section 302 EHS: EPCRA (SARA Title III) Section 302 (40 CFR Part 355) Extremely Hazardous Substances (EHS) Threshold Planning Quantity (TPQ) in pounds: 500 Lbs.  
 Section 302 RQ: EPCRA (SARA Title III) Section 302 Extremely Hazardous Substances (EHS) Reportable Quantities (RQ) in pounds: 100 Lbs.  
 New Jersey: Listed: NJ Hazardous EHS List  
 Massachusetts: Listed: Massachusetts Oil and Hazardous List  
 Pennsylvania: Listed  
 Canada DSL: Listed  
 Canadian Regulations: WHMIS Hazard Class(es): B2; D2A; D2B  
 All components of this product are on the Canadian Domestic Substances List.

## SECTION 16 - ADDITIONAL INFORMATION

HMIS Fire Hazard: 3  
 HMIS Health Hazard: 3\*  
 HMIS Reactivity: 1  
 HMIS Personal Protection: x  
 MSDS Revision Date: 1/15/2011  
 MSDS Author: Actio Corporation  
 Disclaimer: This Health and Safety Information is correct to the best of our knowledge and belief at the date of its publication but we cannot accept liability for any loss, injury or damage which may result from its use. The information given in the Data Sheet is designed only as a guidance for safe handling, storage and the use of the substance. It is not a specification nor does it guarantee any specific properties. All chemicals should be handled only by competent personnel, within a controlled environment.

