

KIT - SAFETY DATA SHEET

Product identifier used on the label:

Kit Name **R-Flex 4 LB. Kit**
Stock No.: 15550

Other means of identification:

Recommended use of the chemical and restrictions on use:

Product Use/Restriction: No Data

Chemical manufacturer address and telephone number:

Manufacturer Name: ITW Performance Polymers
Address: 30 Endicott Street
Danvers, MA 01923

Component list

Component D	R-Flex Surface Conditioner Powder Premix
Component B	R-Flex Hardener
Component C	R-Flex Surface Conditioner
Component E	METAL CLIP PRIMER
Component A	R-Flex II-Resin
Kit SDS Revision Date	10/19/2017

Component D - SDS

SECTION 1 : IDENTIFICATION

Product identifier used on the label:

Product Name: **R-Flex Surface Conditioner Powder Premix**

Other means of identification:

Recommended use of the chemical and restrictions on use:

Chemical manufacturer address and telephone number:

Manufacturer Name: ITW
Address: 30 Endicott Street
Danvers, MA 01923
General Phone Number: (978) 777-1100

Emergency phone number:

Emergency Phone Number: (800) 424-9300
CHEMTREC: For emergencies in the US, call CHEMTREC: 800-424-9300

SECTION 2 : HAZARD(S) IDENTIFICATION

Classification of the chemical in accordance with CFR 1910.1200(d)(f):

GHS Pictograms:



Signal Word:

DANGER.

GHS Class:

Oxidising solids. Category 2.
Eye Irritation. Category 2.
Skin Irritation. Category 2.
Acute Oral Toxicity. Category 4.
Specific Target Organ Toxicity - STOT, Single Exposure SE. Category 3.

Hazard Statements:

H272 - May intensify fire; oxidizer.
 H319 - Causes serious eye irritation.
 H315 - Causes skin irritation.
 H302 - Harmful if swallowed.
 H335 - May cause respiratory irritation.

Precautionary Statements:

P210 - Keep away from heat/sparks/open flames/hot surfaces. — No smoking.
 P220 - Keep away from clothing and other combustible materials.
 P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
 P264 - Wash hands thoroughly after handling.
 P270 - Do not eat, drink or smoke when using this product.
 P271 - Use only outdoors or in a well-ventilated area.
 P280 - Wear protective gloves/protective clothing/eye protection/face protection.
 P301+P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
 P302+P352 - IF ON SKIN: Wash with plenty of water.
 P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P312 - Call a POISON CENTER or doctor/physician if you feel unwell.
 P321 - Specific treatment (see ... on this label).
 P330 - Rinse mouth.
 P332+P313 - If skin irritation occurs: Get medical advice/attention.
 P337+P313 - If eye irritation persists: Get medical advice/attention.
 P362+P364 - Take off contaminated clothing and wash it before reuse.
 P370+P378 - In case of fire: Use dry chemical, carbon dioxide to extinguish small fires. Use water for large fires.
 P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
 P405 - Store locked up.
 P501 - Dispose of contents/container in accordance with Local, State, Federal and Provincial regulations.

Hazards not otherwise classified that have been identified during the classification process:**Route of Exposure:**

Eyes. Skin. Inhalation. Ingestion.

Potential Health Effects:**Eye:**

Corrosive. Will cause eye burns, permanent tissue damage, and blindness.

Skin:

Contact causes severe skin irritation and possible burns. may cause permanent skin damage.

Inhalation:

Inhalation of this material in dust or vapor form is irritating to the nose, mouth, throat and lungs. It may also cause burns to the respiratory tract with the production of lung edema which can result in shortness of breath, wheezing, choking, chest pain, and impairment of lung function. Inhalation of high concentrations can result in permanent lung damage.

Ingestion:

Harmful if swallowed. Corrosive to the gastrointestinal tract.

Chronic Health Effects:

Prolonged skin contact causes burns.
 Repeated or prolonged inhalation may cause toxic effects.

Signs/Symptoms:

Dermal exposure to dry material causes moderate skin irritation characterized by redness and swelling. Dermal exposure to wet material can cause severe irritation and/or burns characterized by redness, swelling and scab formation.
 Symptoms of ingestion include burns to the stomach and intestines, characterized by nausea, vomiting, diarrhea, abdominal pain, bleeding, and/or tissue ulceration.

Target Organs:

Eyes. Skin. Respiratory system. Digestive 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.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS**Mixtures:**

Chemical Name	CAS#	Ingredient Percent	EC Num.
Trichloro-S-Triazinetrione	87-90-1	70 - 80 by weight	
Non-hazardous ingredients.	N/A	20 - 30 by weight	

SECTION 4 : FIRST AID MEASURES**Description of necessary measures:****Eye Contact:**

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.

Skin Contact:

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.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.

Ingestion:

If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

Indication of immediate medical attention and special treatment needed:**Note to Physicians:**

Probable mucosal damage may contraindicate the use of gastric lavage.

SECTION 5 : FIRE FIGHTING MEASURES

Suitable and unsuitable extinguishing media:

- Suitable Extinguishing Media:** Use water only.
- Unsuitable extinguishing media:** Dry fire extinguishers containing ammonium compounds.

Specific hazards arising from the chemical:

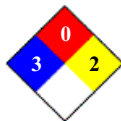
- Hazardous Combustion Byproducts:** Thermal decomposition products may include smoke and toxic fumes.
- Unusual Fire Hazards:** Closed containers may rupture via pressure build-up when exposed to fire or extreme heat.

Special protective equipment and precautions for fire-fighters:

- Protective Equipment:** As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.
- Fire Fighting Instructions:** 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.

NFPA Ratings:

- NFPA Health: 3
- NFPA Flammability: 0
- NFPA Reactivity: 2



SECTION 6 : ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

- Personal Precautions:** Evacuate area and keep unnecessary and unprotected personnel from entering the spill area.

Environmental precautions:

- Environmental Precautions:** Avoid runoff into storm sewers, ditches, and waterways.

Methods and materials for containment and cleaning up:

- Methods for containment:** Prevent from spreading by covering, diking or other means. If spill material is still dry, do not put water directly on this product as a gas evolution may occur. Stop water flow or divert water flow around spill if possible and safe to do so. Begin monitoring for available chlorine and pH immediately. Response to a large quantity spill (100 pounds or greater) or when dusting or decomposition gas exposure could occur. The use of a positive pressure full face supplied air respirator or self contained breathing apparatus (SCBA), chemical resistant gloves, coveralls and boots is required.
- Methods for cleanup:** Clean up all spill material with clean, dry dedicated equipment and place in a clean dry container. If this material becomes damp/wet or contaminated in a container, the formation of nitrogen trichloride gas may occur and an explosive condition may exist. Do not contaminate spill material with any organic materials, ammonia, ammonium salts or urea.

Reference to other sections:

- Other Precautions:** For all Transportation Accidents, Call CHEMTREC: 1-800-424-9300

SECTION 7 : HANDLING and STORAGE

Precautions for safe handling:

- Handling:** Use with adequate ventilation. Avoid breathing vapor, aerosol or mist. Avoid contact with eyes and skin. Do not reuse containers without proper cleaning or reconditioning.
- Hygiene Practices:** Wash thoroughly after handling.
- 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.

Conditions for safe storage, including any incompatibilities:

- 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 temperatures above 120 °F.

SECTION 8: EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE GUIDELINES:

Trichloro-S-Triazinetrione :

Appropriate engineering controls:

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.

Individual protection measures:

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: Nitrile, Natural rubber, Neoprene (This includes: gloves, boots, apron, protective suit). Chemical-resistant gloves and chemical goggles, face-shield and synthetic apron or coveralls should be used to prevent contact with eyes, skin or clothing.

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.

SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES

PHYSICAL AND CHEMICAL PROPERTIES:

Physical State Appearance:	Solid.
Color:	Amber.
Odor:	slight chlorine.
Boiling Point:	Not determined.
Melting Point:	Not determined.
Specific Gravity:	1.16 - 1.9
Solubility:	1.2% @25°C
Vapor Density:	Not determined.
Vapor Pressure:	Not determined.
Percent Volatile:	Not determined.
Evaporation Rate:	Not determined.
pH:	alkaline
Molecular Formula:	Mixture
Molecular Weight:	Mixture
Flash Point:	Not determined.
Lower Flammable/Explosive Limit:	Not determined.
Upper Flammable/Explosive Limit:	Not determined.
Auto Ignition Temperature:	Not determined.
Oxidizing Properties:	NFPA Class 1 Oxidizer
VOC Content:	Not determined.

SECTION 10 : STABILITY and REACTIVITY

Reactivity:

Reactivity: Contact with small amounts of water may result in an exothermic reaction with the liberation of toxic fumes. Damp or slightly wet product (will evolve nitrogen trichloride).

Chemical Stability:

Chemical Stability: Stable under normal temperatures and pressures. May be unstable at temperatures above 225 °C (437 °F).
Not sensitive to mechanical shock. Not sensitive to static discharge.

Possibility of hazardous reactions:

Hazardous Polymerization: Not reported.

Conditions To Avoid:

Conditions to Avoid: Heat, flames, ignition sources, and sparks. Incompatible materials. Avoid heat (> 120 deg F), open flames and contamination with incompatible materials. May be unstable at temperatures above 225 °C (437 °F).

Incompatible Materials:

Incompatible Materials: Organic materials; Reducing agents; Nitrogen containing materials; Oxidizers acids; Bases (Incompatible materials for packaging: paper, cardboard). Oils, Grease, Sawdust. Dry fire extinguishers containing ammonium compounds.

Hazardous Decomposition Products:

Special Decomposition Products: Nitrogen trichloride, Chlorine, nitrous oxides, cyanates, Carbon monoxide, Carbon dioxide.

SECTION 11 : TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION:

Trichloro-S-Triazinetrione :

Eye: Administration into the eye - Rabbit Standard Draize test : 0.1 gm [Severe]
Administration into the eye - Rabbit Rinsed with water : 0.1 gm [Severe] (RTECS)

Skin: Administration onto the skin - Rabbit LDLo - Lowest published lethal dose : 5010 mg/kg [Behavioral - Somnolence (general depressed activity) Behavioral - Food intake (animal) Liver - Other changes]
Administration onto the skin - Rabbit LD50 - Lethal dose, 50 percent kill : >2000 mg/kg [Endocrine - Changes in spleen weight Kidney/Ureter/Bladder - Other changes Skin and Appendages - Primary irritation (After topical exposure)]
Administration onto the skin - Rat LD50 - Lethal dose, 50 percent kill : >5000 mg/kg [Behavioral - Somnolence (general depressed activity)]
Administration onto the skin - Rabbit Standard Draize test : 500 mg/24H [Moderate]
Administration onto the skin - Rabbit Standard Draize test : 0.5 gm [Mild] (RTECS)

Inhalation: Inhalation - Rat LC - Lethal concentration : >2 gm/m3/1H [Details of toxic effects not reported other than lethal dose value]
Inhalation - Rat LCLo - Lowest published lethal concentration : 290 mg/m3/4H [Lungs, Thorax, or Respiration - Emphysema Liver - Other changes Blood - Hemorrhage] (RTECS)

Ingestion: Oral - Rat LD50 - Lethal dose, 50 percent kill : 406 mg/kg [Details of toxic effects not reported other than lethal dose value] (RTECS)

SECTION 12 : ECOLOGICAL INFORMATION

Ecotoxicity:

Ecotoxicity: No ecotoxicity data was found for the product.

Environmental Fate: No environmental information found for this product.

SECTION 13 : DISPOSAL CONSIDERATIONS

Description of waste:

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 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.

SECTION 14 : TRANSPORT INFORMATION

DOT Shipping Name: Refer to Bill of Lading

DOT UN Number: Refer to Bill of Lading

SECTION 15 : REGULATORY INFORMATION

Safety, health and environmental regulations specific for the product:

Trichloro-S-Triazinetrione :

TSCA Inventory Status: Listed

EINECS Number: XZ1925000

Massachusetts: Listed: Massachusetts Oil and Hazardous List

Pennsylvania: Listed

Canada DSL: Listed

Canada IDL: Identified under the Canadian Hazardous Products Act Ingredient Disclosure List: 0.1%.1614(148)

Canadian Regulations: WHMIS Hazard Class(es): E; D2A
All components of this product are on the Canadian Domestic Substances List.

WHMIS Pictograms:



SECTION 16 : ADDITIONAL INFORMATION

HMIS Ratings:

HMIS Health Hazard: 3*
 HMIS Fire Hazard: 1
 HMIS Reactivity: 2
 HMIS Personal Protection: X

Health Hazard	3*
Fire Hazard	1
Reactivity	2
Personal Protection	X

* Chronic Health Effects

SDS Creation Date: November 20, 2013
 SDS Revision Date: October 15, 2015
 SDS Revision Notes: GHS Update
 SDS Author: Actio Corporation

Disclaimer:

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Component B - SDS**SECTION 1 : IDENTIFICATION**Product identifier used on the label:Product Name: **R-Flex Hardener**Other means of identification:

Synonyms: None.

Recommended use of the chemical and restrictions on use:

Product Use/Restriction: Not applicable.

Chemical manufacturer address and telephone number:

Manufacturer Name: ITW
 Address: 30 Endicott Street
 Danvers, MA 01923
 General Phone Number: (978) 777-1100

Emergency phone number:

Emergency Phone Number: (800) 424-9300
 CHEMTREC: For emergencies in the US, call CHEMTREC: 800-424-9300

SECTION 2 : HAZARD(S) IDENTIFICATIONClassification of the chemical in accordance with CFR 1910.1200(d)(f):

GHS Pictograms:



Signal Word:

WARNING.

GHS Class:

Specific Target Organ Toxicity -STOT Repeated exposure RE. Category 2 (Oral, liver, kidney, and pancreas).
 Eye Irritation. Category 2.
 Acute Oral Toxicity. Category 4.

Hazard Statements:

H373 - May cause damage to organs through prolonged or repeated exposure.
 H319 - Causes serious eye irritation.
 H302 - Harmful if swallowed.

Precautionary Statements: P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
P264 - Wash hands thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P314 - Get medical advice/attention if you feel unwell.
P330 - Rinse mouth.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P501 - Dispose of contents/container in accordance with Local, State, Federal and Provincial regulations.

Hazards not otherwise classified that have been identified during the classification process:

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.

Skin: Causes severe skin irritation. May cause permanent skin damage.

Inhalation: Vapor or mist may cause severe respiratory system irritation.

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 may cause eye watering or discomfort, redness and swelling.

Target Organs: Eyes. Skin. Respiratory system. Digestive system.

Aggravation of Pre-Existing Conditions: May aggravate pre-existing respiratory disorders, allergy, eczema, or skin conditions.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

Mixtures:

Chemical Name	CAS#	Ingredient Percent	EC Num.
Diethyltoluenediamine	68479-98-1	80 - 90 by weight	
Saturated & unsaturated straight chain aliphatic monocarboxylic acids, mainly oleic acid	No Data	10 - 20 by weight	
Epoxidized soybean oil	8013-07-8	1 - 10 by weight	
Carbon black	1333-86-4	0.1 - 1.0 by weight	

SECTION 4 : FIRST AID MEASURES

Description of necessary measures:

Eye Contact: 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.

Skin Contact: 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.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.

Ingestion: If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

SECTION 5 : FIRE FIGHTING MEASURES

Suitable and unsuitable extinguishing media:

Suitable Extinguishing Media: Use carbon dioxide (CO2) or dry chemical when fighting fires involving this material.

Unsuitable extinguishing media: Water or foam may cause frothing.

Special protective equipment and precautions for fire-fighters:

Protective Equipment: As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.

Fire Fighting Instructions: 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.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Personal Precautions: Evacuate area and keep unnecessary and unprotected personnel from entering the spill area.

Environmental precautions:

Environmental Precautions: Avoid runoff into storm sewers, ditches, and waterways.

Methods and materials for containment and cleaning up:

Spill Cleanup Measures: 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.

Reference to other sections:

Other Precautions: Pump or shovel to storage/salvage vessels.

SECTION 7 : HANDLING and STORAGE

Precautions for safe handling:

Handling: Use with adequate ventilation. Avoid breathing vapor, aerosol or mist.

Hygiene Practices: Wash thoroughly after handling.

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.

Conditions for safe storage, including any incompatibilities:

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.

SECTION 8: EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE GUIDELINES:

Carbon black :

Guideline ACGIH: TLV-TWA: 3 mg/m³ Inhalable fraction (I)

Appropriate engineering controls:

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.

Individual protection measures:

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.

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

SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES

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)
Lower Flammable/Explosive Limit:	Not determined.
Upper Flammable/Explosive Limit:	Not determined.
Auto Ignition Temperature:	Not determined.
VOC Content:	0 g/L

9.2. Other information:

Percent Solids by Weight 100

SECTION 10 : STABILITY and REACTIVITY

Chemical Stability:

Chemical Stability: Stable under normal temperatures and pressures.

Possibility of hazardous reactions:

Hazardous Polymerization: Not reported.

Conditions To Avoid:

Conditions to Avoid: Extreme heat, sparks, and open flame. Incompatible materials, oxidizers and oxidizing conditions.

Incompatible Materials:

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

TOXICOLOGICAL INFORMATION:

Diethyltoluenediamine :

Ingestion: Oral - Rat LD50 - Lethal dose, 50 percent kill: 472 mg/kg [Sense Organs and Special Senses (Eye) - Lacrimation Behavioral - Somnolence (general depressed activity) Musculoskeletal - Other changes] (RTECS)

Epoxidized soybean oil :

Skin: Administration onto the skin - Rabbit LD50 - Lethal dose, 50 percent kill: >20 mL/kg [Details of toxic effects not reported other than lethal dose value] (RTECS)

Ingestion: Oral - Rat LD50 - Lethal dose, 50 percent kill: 40 gm/kg [Details of toxic effects not reported other than lethal dose value]
Oral - Rat LD50 - Lethal dose, 50 percent kill: 22500 uL/kg [Details of toxic effects not reported other than lethal dose value] (RTECS)

Carbon black :

Skin: Administration onto the skin - Rabbit LD50 - Lethal dose, 50 percent kill: >3 gm/kg [Details of toxic effects not reported other than lethal dose value] (RTECS)

Ingestion: Oral - Rat LD50 - Lethal dose, 50 percent kill: >15400 mg/kg [Behavioral - Somnolence (general depressed activity)] (RTECS)

Chronic Effects: This product contains carbon black, which is classified as a possible carcinogen by the International Agency for Research on Cancer (IARC). Although normal application procedures for this product pose minimal hazard as to the release of carbon black dust, grinding or sanding cured product may generate respirable carbon black.

Carcinogenicity: Carbon black and its extracts have been tested for carcinogenicity in rats and mice by inhalation and it has shown sufficient evidence in laboratory animals for the carcinogenicity of carbon black.

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

Description of waste:

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 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: Not determined.

SECTION 14 : TRANSPORT INFORMATION

DOT Shipping Name: Refer to Bill of Lading
DOT UN Number: Refer to Bill of Lading
IATA Shipping Name: Refer to Bill of Lading
IATA UN Number: Refer to Bill of Lading
IMDG UN Number : Refer to Bill of Lading
IMDG Shipping Name : Refer to Bill of Lading

SECTION 15 : REGULATORY INFORMATION

Safety, health and environmental regulations specific for the product:

Diethyltoluenediamine :

TSCA Inventory Status: Listed
Canada DSL: Listed

Epoxidized soybean oil :

TSCA Inventory Status: Listed
Canada DSL: Listed

Carbon black :

TSCA Inventory Status: Listed
California PROP 65: Listed: cancer.
Canada DSL: Listed

Canadian Regulations. WHMIS Hazard Class(es): D2B
 All components of this product are on the Canadian Domestic Substances List.

WHMIS Pictograms:



SECTION 16 : ADDITIONAL INFORMATION

HMIS Ratings:

HMIS Health Hazard: 2*
HMIS Fire Hazard: 1
HMIS Reactivity: 0
HMIS Personal Protection: X

Health Hazard	2*
Fire Hazard	1
Reactivity	0
Personal Protection	X

* Chronic Health Effects

SDS Revision Date: July 25, 2015
SDS Revision Notes: GHS Update
SDS Author: Actio Corporation

Disclaimer:

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Component C - SDS

SECTION 1 : IDENTIFICATION

Product identifier used on the label:

Product Name: R-Flex Surface Conditioner

Other means of identification:

Recommended use of the chemical and restrictions on use:

Chemical manufacturer address and telephone number:

Manufacturer Name: ITW
Address: 30 Endicott Street
Danvers, MA 01923
General Phone Number: (978) 777-1100

Emergency phone number:

Emergency Phone Number: (800) 424-9300
CHEMTREC: For emergencies in the US, call CHEMTREC: 800-424-9300

SECTION 2 : HAZARD(S) IDENTIFICATION

Classification of the chemical in accordance with CFR 1910.1200(d)(f):

GHS Pictograms:



Signal Word:

DANGER.

GHS Class:

Flammable Liquid, Category 2.
Eye Irritation, Category 2.
Skin Irritation, Category 2.
Specific Target Organ Toxicity - STOT, Single Exposure SE, Category 3.

Hazard Statements:

H225 - Highly flammable liquid and vapor.
H319 - Causes serious eye irritation.
H315 - Causes skin irritation.
H336 - May cause drowsiness or dizziness.

Precautionary Statements:

- P210 - Keep away from heat/sparks/open flames/hotsurfaces. — No smoking.
- P233 - Keep container tightly closed.
- P240 - Ground/Bond container and receiving equipment.
- P241 - Use explosion-proof electrical/ventilating/lighting equipment.
- P242 - Use only non-sparking tools.
- P243 - Take precautionary measures against static discharge.
- P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
- P264 - Wash hands thoroughly after handling.
- P271 - Use only outdoors or in a well-ventilated area.
- P280 - Wear protective gloves/protective clothing/eye protection/face protection.
- P302+P352 - IF ON SKIN: Wash with plenty of water.
- P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P312 - Call a POISON CENTER or doctor/physician if you feel unwell.
- P321 - Specific treatment (see ... on this label).
- P332+P313 - If skin irritation occurs: Get medical advice/attention.
- P337+P313 - If eye irritation persists: Get medical advice/attention.
- P362+P364 - Take off contaminated clothing and wash it before reuse.
- P370+P378 - In case of fire: Use dry chemical, carbon dioxide to extinguish small fires. Use water for large fires.
- P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
- P403+P235 - Store in a well-ventilated place. Keep cool.
- P405 - Store locked up.
- P501 - Dispose of contents/container in accordance with Local, State, Federal and Provincial regulations.

Hazards not otherwise classified that have been identified during the classification process:

- 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.
 - Inhalation:** Respiratory tract irritant. High concentration may cause dizziness, headache, and anesthetic effects.
 - 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, lung (asthma-like), or blood forming conditions may be more susceptible to the effects of this product. This material shortens the time of onset or worsens the liver and kidney damage induced by other chemicals.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

Mixtures:

Chemical Name	CAS#	Ingredient Percent	EC Num.
Acetone	67-64-1	90 - 100 by weight	606-001-00-8

SECTION 4 : FIRST AID MEASURES

Description of necessary measures:

- Eye Contact:** 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.
- Skin Contact:** 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.
- Inhalation:** If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.
- Ingestion:** If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

Indication of immediate medical attention and special treatment needed:

- Note to Physicians:** This material is an aspiration hazard. Potential danger from aspiration must be weighed against possible oral toxicity (See Section 2 - Swallowing) when deciding whether to induce vomiting. This material (or a component) has produced hyperglycemia and ketosis following substantial ingestion.

SECTION 5 : FIRE FIGHTING MEASURES

Suitable and unsuitable extinguishing media:

- Suitable Extinguishing Media:** Use carbon dioxide (CO₂) or dry chemical when fighting fires involving this material.
- Unsuitable extinguishing media:** Water may cause frothing.
- Unusual Fire Hazards:** Material is volatile and readily gives off vapors which may travel along the ground or be moved by ventilation and ignited by ignition sources. Such ignition sources include but not limited to pilot lights, flames, sparks, heaters, smoking, electric motors, static discharge. Vapors can flow along surfaces to distant ignition sources and flash back.

Special protective equipment and precautions for fire-fighters:

- Protective Equipment:** As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.
- Fire Fighting Instructions:** 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.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

- Personal Precautions:** Evacuate area and keep unnecessary and unprotected personnel from entering the spill area.

Environmental precautions:

- Environmental Precautions:** Avoid runoff into storm sewers, ditches, and waterways.

Methods and materials for containment and cleaning up:

- Spill Cleanup Measures:** 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.

Reference to other sections:

- Other Precautions:** Pump or shovel to storage/salvage vessels. Add inhibitor to prevent polymerization.

SECTION 7 : HANDLING and STORAGE

Precautions for safe handling:

- Handling:** Use with adequate ventilation. Electrically bond and ground all containers, personnel and equipment before transfer or use of material.. Avoid breathing vapor, aerosol or mist. Use proper bonding and grounding during product transfer as described in National Fire Protection Association document NFPA 77. Sudden release of hot organic chemical vapors or mists from process equipment operating at elevated temperature and pressure, or sudden ingress of air into vacuum equipment, may result in ignitions without the presence of obvious ignition sources
- Hygiene Practices:** Wash thoroughly after handling.
- Special Handling Procedures:** Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed. Any use of this product in elevated temperature processes should be thoroughly evaluated to establish and maintain safe operating conditions.

Conditions for safe storage, including any incompatibilities:

- 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.

SECTION 8: EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE GUIDELINES:

Acetone:

- Guideline ACGIH:** 500 ppm
TLV-STEL: 750 ppm
TLV-TWA: 500 ppm
- Guideline OSHA:** 1000 ppm
PEL-TWA: 1000 ppm

Appropriate engineering controls:

- 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.

Individual protection measures:

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

SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES

PHYSICAL AND CHEMICAL PROPERTIES:

Physical State Appearance:	Liquid.
Color:	Colorless.
Odor:	Fruity like odor
Odor Threshold:	Not determined.
Boiling Point:	132°F (55.5°C)
Melting Point:	-138.6 °F (-94.8 °C)
Density:	6.59 lb/gal @ 68 °F / 20 °C
Specific Gravity:	0.7865 @ 77 °F / 25 °C
Solubility:	miscible.
Vapor Density:	2.0 Air=1.
Vapor Pressure:	162 mmHg @68°F (30.796 kPa @ 25 °C)
Percent Volatile:	99.9
Evaporation Rate:	14.40 (n-Butyl Acetate = 1)
pH:	Not determined.
Coefficient of Water/Oil Distribution:	No Data
Flash Point:	-4°F (-20°C)
Flash Point Method:	closed cup.
Lower Flammable/Explosive Limit:	2.6% by volume
Upper Flammable/Explosive Limit:	12.8% by volume
Auto Ignition Temperature:	869 °F (465 °C)

SECTION 10 : STABILITY and REACTIVITY

Chemical Stability:

Chemical Stability: Unstable.

Possibility of hazardous reactions:

Hazardous Polymerization: Polymerization may occur under certain conditions.

Conditions To Avoid:

Conditions to Avoid: Extreme heat, sparks, and open flame. Incompatible materials, oxidizers and oxidizing conditions. Oxygen-free atmospheres or inert gas blanketing. Freezing conditions. Material can soften paint and rubber.

Incompatible Materials:

Incompatible Materials: Oxidizing agents (eg peroxides, nitrates), reducing agents, acids, bases, azo-compounds, catalytic metals (eg copper, iron), halogens. Free radical initiators. Oxygen scavengers.

SECTION 11 : TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION:

Acetone :

RTECS Number: AL3150000

Eye: Eye - Human Standard Draize test.: 500 ppm
 Eye - Rabbit Standard Draize test.: 20 mg/24H
 Eye - Rabbit Standard Draize test.: 10 uL
 Eye - Human Standard Draize test.: 186300 ppm
 Eye - Rabbit Standard Draize test.: 20 mg

Skin: Administration onto the skin - Rabbit : 20 mL/kg [Details of toxic effects not reported other than lethal dose value]
Administration onto the skin - Guinea pig : >9400 uL/kg [Details of toxic effects not reported other than lethal dose value]
Administration onto the skin - Mouse : 31.6 ug/kg/2W (Intermittent) [Biochemical - Metabolism (Intermediary) - Other]
Administration onto the skin - Rabbit : 395 mg
Administration onto the skin - Rabbit : 500 mg/24H

Inhalation: Inhalation - Rat LC50: 50100 mg/m³ [Details of toxic effects not reported other than lethal dose value]
Inhalation - Rat LC50: 50100 mg/m³/8H [Details of toxic effects not reported other than lethal dose value]
Inhalation - Mouse LC50: 44 gm/m³/4H [Details of toxic effects not reported other than lethal dose value]

Ingestion: Oral - Rat LD50: 5800 mg/kg [Details of toxic effects not reported other than lethal dose value]
Oral - Rat LD50: 5800 mg/kg [Behavioral - Altered sleep time (including change in righting reflex) Behavioral - Tremor]
Oral - Mouse LD50: 3 gm/kg [Details of toxic effects not reported other than lethal dose value]

SECTION 12 : ECOLOGICAL INFORMATION

Ecotoxicity:

Ecotoxicity: No ecotoxicity data was found for the product.

Environmental Fate: No environmental information found for this product.

SECTION 13 : DISPOSAL CONSIDERATIONS

Description of waste:

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 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: D001

Important Disposal Information: 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

DOT Shipping Name: Non regulated.

DOT UN Number: Not applicable.

DOT Hazard Class: Not applicable.

DOT Packing Group: Not applicable.

DOT Exemption: Over 450 Litres - Combustible liquid, n.o.s. NA1993, III

SECTION 15 : REGULATORY INFORMATION

Safety, health and environmental regulations specific for the product:

Acetone :

TSCA Inventory Status: Listed

Massachusetts: Listed: Massachusetts Oil and Hazardous List

Pennsylvania: Listed

Canada DSL: Listed

EC Number: 606-001-00-8

Canadian Regulations: WHMIS Hazard Class(es): B2
All components of this product are on the Canadian Domestic Substances List.

WHMIS Pictograms:



SECTION 16 : ADDITIONAL INFORMATION

HMIS Ratings:

HMIS Fire Hazard: 2
HMIS Reactivity: 2
HMIS Personal Protection: X

Health Hazard	
Fire Hazard	2
Reactivity	2
Personal Protection	X

SDS Revision Date: October 15, 2015
SDS Revision Notes: GHS Update
SDS Author: Actio Corporation

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Component E - SDS

SECTION 1 : IDENTIFICATION

Product identifier used on the label:

Product Name: **METAL CLIP PRIMER**

Other means of identification:

Synonyms: None.

Recommended use of the chemical and restrictions on use:

Product Use/Restriction: Not applicable.

Chemical manufacturer address and telephone number:

Manufacturer Name: ITW
Address: 30 Endicott Street
Danvers, MA 01923
General Phone Number: (978) 777-1100

Emergency phone number:

Emergency Phone Number: (800) 424-9300
CHEMTREC: For emergencies in the US, call CHEMTREC: 800-424-9300

SECTION 2 : HAZARD(S) IDENTIFICATION

Classification of the chemical in accordance with CFR 1910.1200(d)(f):

GHS Pictograms:



Signal Word: DANGER.

GHS Class: Flammable Liquid, Category 2.
Aspiration Hazard, category 1.
Specific Target Organ Toxicity -STOT Repeated exposure RE, Category 2 (Inhalation, brain & central nervous system).
Reproductive toxicity, Category 2.
Eye Irritation, Category 2.
Skin Irritation, Category 2.
Specific Target Organ Toxicity - STOT, Single Exposure SE, Category 3.

Hazard Statements: H225 - Highly flammable liquid and vapor.
H304 - May be fatal if swallowed and enters airways.
H373 - May cause damage to organs through prolonged or repeated exposure.
H361 - Suspected of damaging fertility or the unborn child.
H319 - Causes serious eye irritation.
H315 - Causes skin irritation.
H336 - May cause drowsiness or dizziness.

Precautionary Statements:

P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P210 - Keep away from heat/sparks/open flames/hotsurfaces. — No smoking.
P233 - Keep container tightly closed.
P240 - Ground/Bond container and receiving equipment.
P241 - Use explosion-proof electrical/ventilating/lighting equipment.
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 - Wash hands thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P302+P352 - IF ON SKIN: Wash with plenty of water.
P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 - IF exposed or concerned: Get medical advice/attention.
P312 - Call a POISON CENTER or doctor/physician if you feel unwell.
P314 - Get medical advice/attention if you feel unwell.
P321 - Specific treatment (see ... on this label).
P331 - Do not induce vomiting.
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P370+P378 - In case of fire: Use dry chemical, carbon dioxide to extinguish small fires. Use water for large fires.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P403+P235 - Store in a well-ventilated place. Keep cool.
P405 - Store locked up.
P501 - Dispose of contents/container in accordance with Local, State, Federal and Provincial regulations.

Hazards not otherwise classified that have been identified during the classification process:

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.

Inhalation: Respiratory tract irritant. High concentration may cause dizziness, headache, and anesthetic effects.

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. Kidney. 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.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

Mixtures:

Chemical Name	CAS#	Ingredient Percent	EC Num.
Methyl Isobutyl Ketone	108-10-1	30 - 40 by weight	
Ethanol	64-17-5	1 - 10 by weight	
Toluene	108-88-3	20 - 30 by weight	
Isopropanol	67-63-0	20 - 30 by weight	
Phenolic Resin	9003-35-4	10 - 20 by weight	

SECTION 4 : FIRST AID MEASURES

Description of necessary measures:

Eye Contact: 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.

Skin Contact: 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.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.

Ingestion:

If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

SECTION 5 : FIRE FIGHTING MEASURES

Suitable and unsuitable extinguishing media:

Suitable Extinguishing Media: Use carbon dioxide (CO₂) or dry chemical when fighting fires involving this material.

Unusual Fire Hazards: Vapors can flow along surfaces to distant ignition sources and flash back. Closed containers may rupture via pressure build-up when exposed to fire or extreme heat.

Special protective equipment and precautions for fire-fighters:

Protective Equipment: As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.

Fire Fighting Instructions: 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.
Vapors can flow along surfaces to distant ignition sources and flash back.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Personal Precautions: Evacuate area and keep unnecessary and unprotected personnel from entering the spill area.

Environmental precautions:

Environmental Precautions: Avoid runoff into storm sewers, ditches, and waterways.

Methods and materials for containment and cleaning up:

Spill Cleanup Measures: 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. 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.

Reference to other sections:

Other Precautions: Pump or shovel to storage/salvage vessels.

SECTION 7 : HANDLING and STORAGE

Precautions for safe handling:

Handling: 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.

Hygiene Practices: Wash thoroughly after handling.

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. 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.

Conditions for safe storage, including any incompatibilities:

Storage: 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.

SECTION 8: EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE GUIDELINES:

Methyl Isobutyl Ketone:

Guideline ACGIH: TLV-STEL: 75 ppm
TLV-TWA: 30 ppm
TLV-TWA: 20 ppm
TLV-STEL: 75 ppm

Guideline OSHA: PEL-TWA: 100 ppm

Ethanol:

Guideline ACGIH: TLV-STEL: 1000 ppm

Guideline OSHA: PEL-TWA: 1000 ppm

Toluene:

Guideline ACGIH: TLV-TWA: 20 ppm

Guideline OSHA: PEL-TWA: 200 ppm
PEL-Ceiling/Peak: 300 ppm
PEL-Ceiling/Peak: 500 ppm Peak

Isoopropanol:

Guideline ACGIH: TLV-STEL: 400 ppm

TLV-TWA: 200 ppm

Guideline OSHA:

PEL-TWA: 400 ppm

Appropriate engineering controls:

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.

Individual protection measures:

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.

Notes :

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

SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES

PHYSICAL AND CHEMICAL PROPERTIES:

Physical State Appearance: Liquid.

Color: Blue

Odor: Solvent.

Boiling Point: 195°F (90.5°C)

Melting Point: Not determined.

Specific Gravity: 0.87

Solubility: APPROXIMATELY. 35%

Vapor Density: >1 (air = 1)

Vapor Pressure: 13 mmHg @68°F

Percent Volatile: 80

Evaporation Rate: >1 (butyl acetate = 1)

pH: Approximately 7 @ 5 Percent Solution

Molecular Formula: Mixture

Molecular Weight: Mixture

Flash Point: 55°F (12.7°C)

Flash Point Method: Tag closed cup. (TCC)

Lower Flammable/Explosive Limit: 1.3%

Upper Flammable/Explosive Limit: 8.0%

Auto Ignition Temperature: Not determined.

VOC Content: 640 g/L

9.2. Other information:

Percent Solids by Weight 20

SECTION 10 : STABILITY and REACTIVITY

Chemical Stability:

Chemical Stability: Stable under normal temperatures and pressures.

Possibility of hazardous reactions:

Hazardous Polymerization: Not reported.

Conditions To Avoid:

Conditions to Avoid: Extreme heat, sparks, and open flame. Incompatible materials, oxidizers and oxidizing conditions.

Incompatible Materials:

SECTION 11 : TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION:

Methyl Isobutyl Ketone :

- Eye:** Administration into the eye - Rabbit Standard Draize test: 40 mg [Severe]
Administration into the eye - Rabbit Standard Draize test: 100 uL/24H [Moderate] (RTECS)
- Inhalation:** Inhalation - Rat LC50 - Lethal concentration, 50 percent kill: 100 gm/m³ [Details of toxic effects not reported other than lethal dose value] (RTECS)
- Ingestion:** Oral - Rat LD50 - Lethal dose, 50 percent kill: 2080 mg/kg [Details of toxic effects not reported other than lethal dose value]
Oral - Rat LD50 - Lethal dose, 50 percent kill: 4600 mg/kg [Brain and Coverings - Increased intracranial pressure Liver - Fatty liver degeneration Blood - Changes in spleen] (RTECS)

Ethanol :

- Eye:** Administration into the eye - Rabbit Standard Draize test: 500 mg [Severe]
Administration into the eye - Rabbit Standard Draize test: 500 mg/24H [Mild]
Administration into the eye - Rabbit Rinsed with water: 100 mg/4S [Moderate]
Administration into the eye - Rabbit Standard Draize test: 100 uL [Moderate] (RTECS)
- Inhalation:** Inhalation - Rat LC50 - Lethal concentration, 50 percent kill: 20000 ppm/10H [Details of toxic effects not reported other than lethal dose value]
Inhalation - Rat LC50 - Lethal concentration, 50 percent kill: 5900 mg/m³/6H [Details of toxic effects not reported other than lethal dose value]
Inhalation - Rat LC50 - Lethal concentration, 50 percent kill: 124700 mg/m³/4H [Details of toxic effects not reported other than lethal dose value] (RTECS)
- Ingestion:** Oral - Rat LD50 - Lethal dose, 50 percent kill: 7060 mg/kg [Lungs, Thorax, or Respiration - Other changes]
Oral - Rat LD50 - Lethal dose, 50 percent kill: 7 gm/kg [Details of toxic effects not reported other than lethal dose value]
Oral - Rat LD50 - Lethal dose, 50 percent kill: 15010 mg/kg [Behavioral - Somnolence (general depressed activity) Lungs, Thorax, or Respiration - Respiratory depression Gastrointestinal - Gastritis] (RTECS)

Toluene :

- Eye:** Administration into the eye - Rabbit Standard Draize test: 870 ug [Mild]
Administration into the eye - Rabbit Standard Draize test: 2 mg/24H [Severe]
Administration into the eye - Rabbit Rinsed with water: 100 mg/30S [Mild] (RTECS)
- Skin:** Administration onto the skin - Rabbit LD50 - Lethal dose, 50 percent kill: 14100 uL/kg [Details of toxic effects not reported other than lethal dose value] (RTECS)
- Inhalation:** Inhalation - Rat LC50 - Lethal concentration, 50 percent kill: 49 gm/m³/4H [Details of toxic effects not reported other than lethal dose value] (RTECS)
- Ingestion:** Oral - Rat LD50 - Lethal dose, 50 percent kill: 636 mg/kg [Details of toxic effects not reported other than lethal dose value] (RTECS)

Isopropanol :

- Eye:** Administration into the eye - Rabbit Standard Draize test: 100 mg [Severe]
Administration into the eye - Rabbit Standard Draize test: 10 mg [Moderate]
Administration into the eye - Rabbit Standard Draize test: 100 mg/24H [Moderate] (RTECS)
- Skin:** Administration onto the skin - Rabbit LD50 - Lethal dose, 50 percent kill: 12800 mg/kg [Details of toxic effects not reported other than lethal dose value] (RTECS)
- Inhalation:** Inhalation - Rat LC50 - Lethal concentration, 50 percent kill: 16000 ppm/8H [Details of toxic effects not reported other than lethal dose value]
Inhalation - Rat LC50 - Lethal concentration, 50 percent kill: 72600 mg/m³ [Behavioral - General anesthetic Lungs, Thorax, or Respiration - Other changes] (RTECS)
- Ingestion:** Oral - Rat LD50 - Lethal dose, 50 percent kill: 5045 mg/kg [Behavioral - Altered sleep time (including change in righting reflex) Behavioral - Somnolence (general depressed activity)]
Oral - Rat LD50 - Lethal dose, 50 percent kill: 5000 mg/kg [Behavioral - General anesthetic] (RTECS)

Phenolic Resin :

- Skin:** Administration onto the skin - Rat LD50 - Lethal dose, 50 percent kill: >2 gm/kg [Details of toxic effects not reported other than lethal dose value] (RTECS)
- Ingestion:** Oral - Rat LD50 - Lethal dose, 50 percent kill: >5 gm/kg [Details of toxic effects not reported other than lethal dose value] (RTECS)

SECTION 12 : ECOLOGICAL INFORMATION

Ecotoxicity:

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

SECTION 13 : DISPOSAL CONSIDERATIONS

Description of waste:

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 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: D001

Important Disposal Information: 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

DOT Shipping Name: Refer to Bill of Lading

DOT UN Number: Refer to Bill of Lading

IATA Shipping Name: Refer to Bill of Lading

IATA UN Number: Refer to Bill of Lading

IMDG UN Number : Refer to Bill of Lading

IMDG Shipping Name : Refer to Bill of Lading

SECTION 15 : REGULATORY INFORMATION

Safety, health and environmental regulations specific for the product:

Methyl Isobutyl Ketone :

TSCA Inventory Status: Listed

Section 313: EPCRA - 40 CFR Part 372 - (SARA Title III) Section 313 Listed Chemical.

California PROP 65: Listed: cancer.

Canada DSL: Listed

Ethanol :

TSCA Inventory Status: Listed

Canada DSL: Listed

Toluene :

TSCA Inventory Status: Listed

Section 313: EPCRA - 40 CFR Part 372 - (SARA Title III) Section 313 Listed Chemical.

California PROP 65: Listed: developmental.

Canada DSL: Listed

Isopropanol :

TSCA Inventory Status: Listed

Section 313: EPCRA - 40 CFR Part 372 - (SARA Title III) Section 313 Listed Chemical.

Canada DSL: Listed

Phenolic Resin :

TSCA Inventory Status: Listed

Canada DSL: Listed

Canadian Regulations: WHMIS Hazard Class(es): B2; D2B; D2A
All components of this product are on the Canadian Domestic Substances List.

WHMIS Pictograms:



SECTION 16 : ADDITIONAL INFORMATION

HMIS Ratings:

HMIS Health Hazard: 2*

HMIS Fire Hazard: 3

HMIS Reactivity: 1

HMIS Personal Protection: X

Health Hazard	2*
Fire Hazard	3
Reactivity	1
Personal Protection	X

* Chronic Health Effects

SDS Creation Date: September 15, 2017

SDS Revision Date: September 15, 2017

Disclaimer:

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Component A - SDS

SECTION 1 : IDENTIFICATION

Product identifier used on the label:

Product Name: R-Flex II-Resin

Other means of identification:

Synonyms: None.

Recommended use of the chemical and restrictions on use:

Product Use/Restriction: Not applicable.

Chemical manufacturer address and telephone number:

Manufacturer Name: ITW
Address: 30 Endicott Street
 Danvers, MA 01923
General Phone Number: (978) 777-1100

Emergency phone number:

Emergency Phone Number: (800) 424-9300
CHEMTREC: For emergencies in the US, call CHEMTREC: 800-424-9300

SECTION 2 : HAZARD(S) IDENTIFICATION

Classification of the chemical in accordance with CFR 1910.1200(d)(f):

GHS Pictograms:



Signal Word:

DANGER.

GHS Class:

Respiratory sensitisation, category 1.
 Specific Target Organ Toxicity -STOT Repeated exposure RE, Category 2 (Inhalation, respiratory system).
 Eye Irritation, Category 2.
 Skin Irritation, Category 2.
 Skin Sensitization, category 1.
 Acute Inhalation Toxicity, Category 4.
 Specific Target Organ Toxicity - STOT, Single Exposure SE, Category 3.

Hazard Statements:

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 H373 - May cause damage to organs through prolonged or repeated exposure.
 H319 - Causes serious eye irritation.
 H315 - Causes skin irritation.
 H317 - May cause an allergic skin reaction.
 H332 - Harmful if inhaled.
 H335 - May cause respiratory irritation.

Precautionary Statements:

- P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
- P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
- P264 - Wash hands thoroughly after handling.
- P271 - Use only outdoors or in a well-ventilated area.
- P272 - Contaminated work clothing should not be allowed out of the workplace.
- P280 - Wear protective gloves/protective clothing/eye protection/face protection.
- P284 - In case of inadequate ventilation wear respiratory protection.
- P302+P352 - IF ON SKIN: Wash with plenty of water.
- P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P312 - Call a POISON CENTER or doctor/physician if you feel unwell.
- P314 - Get medical advice/attention if you feel unwell.
- P321 - Specific treatment (see ... on this label).
- P332+P313 - If skin irritation occurs: Get medical advice/attention.
- P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
- P337+P313 - If eye irritation persists: Get medical advice/attention.
- P342+P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
- P362+P364 - Take off contaminated clothing and wash it before reuse.
- P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
- P405 - Store locked up.
- P501 - Dispose of contents/container in accordance with Local, State, Federal and Provincial regulations.

Hazards not otherwise classified that have been identified during the classification process:

- 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.
- 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.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

Mixtures:

Chemical Name	CAS#	Ingredient Percent	EC Num.
Methyl ethyl ketone	78-93-3	1 - 10 by weight	
Polyether Polyol	25322-69-4	30 - 40 by weight	
Dicyclohexylmethane-4,4'-diisocyanate	5124-30-1	20 - 30 by weight	
Polytetrahydrofuran	25190-06-1	10 - 20 by weight	
Polyurethane Prepolymer	103837-45-2	10 - 20 by weight	
4,4'-Diphenylmethane Diisocyanate	101-68-8	0.1 - 1.0 by weight	

SECTION 4 : FIRST AID MEASURES

Description of necessary measures:

- Eye Contact:** 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.
- Skin Contact:** 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.
- Inhalation:** If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.

Ingestion: If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

Indication of immediate medical attention and special treatment needed:

Note to Physicians: Asthmatic type symptoms may develop, which may be immediate or delayed for several hours.

SECTION 5 : FIRE FIGHTING MEASURES

Suitable and unsuitable extinguishing media:

Suitable Extinguishing Media: Use carbon dioxide (CO₂) or dry chemical when fighting fires involving this material.

Unusual Fire Hazards: 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.

Special protective equipment and precautions for fire-fighters:

Protective Equipment: As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.

Fire Fighting Instructions: 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.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Personal Precautions: Evacuate area and keep unnecessary and unprotected personnel from entering the spill area.

Environmental precautions:

Environmental Precautions: Avoid runoff into storm sewers, ditches, and waterways.

Methods and materials for containment and cleaning up:

Spill Cleanup Measures: 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. 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. 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. A blanket of protein foam may be placed over spill for temporary control of isocyanate vapor.

Reference to other sections:

Other Precautions: 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.

SECTION 7 : HANDLING and STORAGE

Precautions for safe handling:

Handling: Use with adequate ventilation. Avoid breathing vapor, aerosol or mist.

Hygiene Practices: Wash thoroughly after handling.

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.

Conditions for safe storage, including any incompatibilities:

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 reseal container if moisture or water contamination is suspected. Water contaminated material in a sealed container may rupture due to pressure buildup.

SECTION 8: EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE GUIDELINES:

Methyl ethyl ketone :

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

Guideline OSHA: PEL-TWA: 200 ppm

Dicyclohexylmethane-4,4'-diisocyanate :

Guideline ACGIH: TLV-TWA: 0.005 ppm

Appropriate engineering controls:

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.

Individual protection measures:

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.

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

SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES

PHYSICAL AND CHEMICAL PROPERTIES:

Physical State Appearance:	Liquid.
Color:	Clear
Odor:	Faint.
Boiling Point:	>300°F (148.8°C)
Melting Point:	Not determined.
Specific Gravity:	1.03
Solubility:	negligible.(reacts)
Vapor Density:	Not determined.
Vapor Pressure:	Not determined.
Percent Volatile:	0
Evaporation Rate:	Not determined.
pH:	7.0 @ 5 Percent Solution
Molecular Formula:	Mixture
Molecular Weight:	Mixture
Flash Point:	>400°F (204.4°C)
Flash Point Method:	Tag closed cup. (TCC)
Lower Flammable/Explosive Limit:	Not determined.
Upper Flammable/Explosive Limit:	Not determined.
Auto Ignition Temperature:	Not determined.
VOC Content:	0 g/L
<u>9.2. Other information:</u>	
Percent Solids by Weight	100

SECTION 10 : STABILITY and REACTIVITY

Chemical Stability:

Chemical Stability: Stable under normal temperatures and pressures.

Possibility of hazardous reactions:

Hazardous Polymerization: Polymerization may occur under certain conditions.

Conditions To Avoid:

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

Incompatible Materials:

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

TOXICOLOGICAL INFORMATION:

Methyl ethyl ketone :

Eye:	Administration into the eye - Rabbit Standard Draize test: 80 mg [Not reported.] (RTECS)
Skin:	Administration onto the skin - Rabbit LD50 - Lethal dose, 50 percent kill: 6480 mg/kg [Details of toxic effects not reported other than lethal dose value] (RTECS)
Inhalation:	Inhalation - Rat LC50 - Lethal concentration, 50 percent kill: 23500 mg/m3/8H [Details of toxic effects not reported other than lethal dose value] Inhalation - Rat LC50 - Lethal concentration, 50 percent kill: 23500 mg/m3 [Details of toxic effects not reported other than lethal dose value] (RTECS)
Ingestion:	Oral - Rat LD50 - Lethal dose, 50 percent kill: 2737 mg/kg [Details of toxic effects not reported other than lethal dose value] (RTECS)

Polyether Polyol :

Eye:	Administration into the eye - Rabbit Standard Draize test: 500 mg [Mild] Administration into the eye - Rabbit Standard Draize test: 500 mg/24H [Mild] (RTECS)
Skin:	Administration onto the skin - Rabbit LD50 - Lethal dose, 50 percent kill: >20 mL/kg [Details of toxic effects not reported other than lethal dose value] Administration onto the skin - Rabbit LD50 - Lethal dose, 50 percent kill: >10 gm/kg [Details of toxic effects not reported other than lethal dose value] Administration onto the skin - Rabbit LD50 - Lethal dose, 50 percent kill: >30 gm/kg [Details of toxic effects not reported other than lethal dose value] Administration onto the skin - Rabbit LD50 - Lethal dose, 50 percent kill: 20 mL/kg [Details of toxic effects not reported other than lethal dose value] (RTECS)
Ingestion:	Oral - Rat LD50 - Lethal dose, 50 percent kill: 3750 mg/kg [Brain and Coverings - Recordings from specific areas of CNS] Oral - Rat LD50 - Lethal dose, 50 percent kill: >2 gm/kg [Details of toxic effects not reported other than lethal dose value] Oral - Rat LD50 - Lethal dose, 50 percent kill: 14800 mg/kg [Details of toxic effects not reported other than lethal dose value] Oral - Rat LD50 - Lethal dose, 50 percent kill: 5840 mg/kg [Details of toxic effects not reported other than lethal dose value] Oral - Rat LD50 - Lethal dose, 50 percent kill: 2410 mg/kg [Details of toxic effects not reported other than lethal dose value] Oral - Rat LD50 - Lethal dose, 50 percent kill: 4190 mg/kg [Details of toxic effects not reported other than lethal dose value] Oral - Rat LD50 - Lethal dose, 50 percent kill: 2150 mg/kg [Details of toxic effects not reported other than lethal dose value] Oral - Rat LD50 - Lethal dose, 50 percent kill: 7250 mg/kg [Details of toxic effects not reported other than lethal dose value] Oral - Rat LD50 - Lethal dose, 50 percent kill: 10334 mg/kg [Details of toxic effects not reported other than lethal dose value] Oral - Rat LD50 - Lethal dose, 50 percent kill: 9760 mg/kg [Details of toxic effects not reported other than lethal dose value] Oral - Rat LD50 - Lethal dose, 50 percent kill: 35600 uL/kg (RTECS)

Dicyclohexylmethane-4,4'-diisocyanate :

Eye:	Administration into the eye - Rabbit Standard Draize test: 100 uL [Mild] Administration into the eye - Rabbit Standard Draize test: 100 uL/24H [Severe] (RTECS)
Ingestion:	Oral - Rat LD50 - Lethal dose, 50 percent kill: 9900 mg/kg [Behavioral - Food intake (animal) Gastrointestinal - Hypermotility, diarrhea Liver - Other changes] (RTECS)

4,4'-Diphenylmethane Diisocyanate :

Eye:	Administration into the eye - Rabbit Standard Draize test: 100 mg [Moderate] (RTECS)
Inhalation:	Inhalation - Rat LC50 - Lethal concentration, 50 percent kill: 178 mg/m3 [Details of toxic effects not reported other than lethal dose value] (RTECS)
Ingestion:	Oral - Rat LD50 - Lethal dose, 50 percent kill: 9200 mg/kg [Behavioral - Somnolence (general depressed activity) Behavioral - Ataxia Nutritional and Gross Metabolic - Body temperature decrease] (RTECS)

SECTION 12 : ECOLOGICAL INFORMATION

Ecotoxicity:

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

SECTION 13 : DISPOSAL CONSIDERATIONS

Description of waste:

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 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:	Not determined.

SECTION 14 : TRANSPORT INFORMATION

DOT Shipping Name:	Refer to Bill of Lading
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DOT UN Number: Refer to Bill of Lading

IATA Shipping Name: Refer to Bill of Lading

IATA UN Number: Refer to Bill of Lading

IMDG UN Number : Refer to Bill of Lading

IMDG Shipping Name : Refer to Bill of Lading

SECTION 15 : REGULATORY INFORMATION

Safety, health and environmental regulations specific for the product:

Methyl ethyl ketone :

TSCA Inventory Status: Listed

Canada DSL: Listed

Polyether Polyol :

TSCA Inventory Status: Listed

Canada DSL: Listed

Dicyclohexylmethane-4,4'-diisocyanate :

TSCA Inventory Status: Listed

Section 313: EPCRA - 40 CFR Part 372 - (SARA Title III) Section 313 Listed Chemical.

Canada DSL: Listed

Polytetrahydrofuran :

TSCA Inventory Status: Listed

Canada DSL: Listed

Polyurethane Prepolymer :

TSCA Inventory Status: Listed

Canadian Regulations: WHMIS Hazard Class(es): D2B;D2A

WHMIS Pictograms:



SECTION 16 : ADDITIONAL INFORMATION

HMIS Ratings:

HMIS Health Hazard: 3*

HMIS Fire Hazard: 1

HMIS Reactivity: 1

HMIS Personal Protection: X

Health Hazard	3*
Fire Hazard	1
Reactivity	1
Personal Protection	X

* Chronic Health Effects

SDS Creation Date: October 16, 2017

SDS Revision Date: October 16, 2017

SDS Author: Actio Corporation

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