



# Safety Data Sheet

Issue Date 10-Jul-2013

Revision Date: 21-Jul-2013

Version 1

## 1. IDENTIFICATION

### Product Identifier

**Product Name** Triple & Minimal Expanding Polyurethane Foam

### Other means of identification

**SDS #** RD-0113

**UN/ID No** UN1950

**Product Code** 0909, 0912 Triple Expanding & 0913, 0920 Minimal Expanding Polyurethane Foam

### Recommended use of the chemical and restrictions on use

**Recommended Use** Designed for sealing & bonding voids, cracks & gaps around windows, doors, pipes, foundations & related. Triple Expanding (0909 & 0912) & Minimal Expanding (0913 & 0920) may be used indoors or outdoors. Cured PU Foams should be painted prior to exposure to UV.

### Details of the supplier of the safety data sheet

#### **Supplier Address**

Red Devil, Inc.  
4175 Webb Street  
Pryor, Oklahoma 74361  
www.reddevil.com

### Emergency Telephone Number

**Company Phone Number** 918-825-5744  
Fax: 918-825-5761  
**Emergency Telephone (24 hr)** INFOTRAC 1-352-323-3500 (International)  
1-800-535-5053 (North America)

## 2. HAZARDS IDENTIFICATION

### Classification

Acute toxicity - Inhalation (Vapors)	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Respiratory sensitization	Category 1
Skin sensitization	Category 1
Germ cell mutagenicity	Category 1B
Specific target organ toxicity (repeated exposure)	Category 2
Flammable Aerosols	Category 1

### Signal Word

**Danger**

**Hazard Statements**

Harmful if inhaled  
Causes skin irritation  
Causes serious eye irritation  
May cause allergy or asthma symptoms or breathing difficulties if inhaled  
May cause an allergic skin reaction  
May cause genetic defects  
May cause damage to organs through prolonged or repeated exposure  
Extremely flammable aerosol

**Appearance** Yellow to straw**Physical State** Aerosol**Odor** Characteristic**Precautionary Statements - Prevention**

Obtain special instructions before use  
Do not handle until all safety precautions have been read and understood  
Use personal protective equipment as required  
Use only outdoors or in a well-ventilated area  
Wash face, hands and any exposed skin thoroughly after handling  
In case of inadequate ventilation wear respiratory protection  
Contaminated work clothing should not be allowed out of the workplace  
Do not breathe dust/fume/gas/mist/vapors/spray  
Keep away from heat/sparks/open flames/hot surfaces. — No smoking  
Do not spray on an open flame or other ignition source  
Pressurized container: Do not pierce or burn, even after use  
Wear protective gloves/protective clothing/eye protection/face protection

**Precautionary Statements - Response**

If exposed or concerned: Get medical advice/attention  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
Get medical attention if irritation occurs  
IF ON SKIN: Wash with plenty of soap and water  
Take off contaminated clothing and wash it before reuse  
Immediately call a POISON CENTER or doctor/physician  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
Immediately call a POISON CENTER or doctor/physician

**Precautionary Statements - Storage**

Store locked up  
Protect from sunlight  
Flammable compressed gas storage. Store in well-ventilated area. Keep out of reach of children & pets. Keep away from food, drink & animal feeding stuffs. Store in cool, dry area. Recommended storage temperature is between 40°F & 78°F (4.4°C & 25.5°C). Storage above 104°F (40°C) will reduce shelf life. Protect containers from heat. Protect from freezing

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
Urethane Pre-polymer Blend	MIXTURE	<50
Tris (1-chloro-2-propyl) phosphate	13674-84-5	<30
Methylenediphenyl diisocyanate isomers (Polymeric MDI)	9016-87-9	<30
4,4- methylenediphenyl diisocyanate (MDI)	101-68-8	<30
Propane	74-98-6	<10
Isobutane	75-28-5	<20
Dimethyl ether	115-10-6	<10

Urethane Pre-polymer Blend is a non-hazardous proprietary polyol blend.

### 4. FIRST-AID MEASURES

#### First Aid Measures

<b>General Advice</b>	Provide this SDS to medical personnel for treatment. When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.
<b>Eye Contact</b>	Immediately flush eyes w/ plenty of water for @ least 15 minutes. Remove contact lenses if easy to do. Continue rinsing. Do not apply neutralizing agents. Get medical attention if irritation occurs.
<b>Skin Contact</b>	Remove foam from skin using a cloth. Remove contaminated clothes immediately. Remove uncured foam from skin using delicate solvent such as acetone or mineral spirits (avoid contact w/ eyes). Hardened foam may be removed by persistent washing w/ soap & large quantity of water. If irritation develops, use a delicate cream. Remove & isolate contaminated clothing & shoes. Get medical attention immediately. Wash clothing separately prior to reuse.
<b>Inhalation</b>	Remove to fresh air. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled material. Induce artificial respiration w/ aid of a pocket mask equipped w/ a one-way valve or other proper respiratory medical device. Get medical attention immediately.
<b>Ingestion</b>	Rinse mouth. Do not induce vomiting unless advised by poison control center. Do not use mouth-to-mouth method if victim ingested material. Induce artificial respiration w/ aid of a pocket mask equipped w/ a one-way valve or other proper respiratory medical device. If swallowed, seek medical attention immediately.

#### Most important symptoms and effects

**Symptoms**

Inhalation: Vapors may irritate mucus membranes w/ tightness in chest, coughing, wheeziness or allergic asthma-like sensitivity. Extensive overexposure may lead to respiratory symptoms such as bronchitis & pulmonary edema. These effects are usually reversible. Overexposure to gases may result in light headedness, headaches or lethargy. Persons w/ cardiac arrhythmia may be @ increased risk w/ severe exposure.

Skin Contact: May cause localized skin irritation, redness. Prolonged or repeated exposure may result in sensitization, blistering &/or dermatitis.

Eye Contact: Causes eye irritation. For its adhesive feature, foam contact w/ eyes may result in physical damage due to adhesive properties.

Ingestion: Harmful if swallowed. Ingestion may result in gastrointestinal irritation, nausea &/or diarrhea.

**Indication of any immediate medical attention and special treatment needed****Notes to Physician**

In case of shortness of breath, give oxygen. Keep victim warm. Symptoms may be delayed.

**5. FIRE-FIGHTING MEASURES****Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Small Fire**

Dry chemical or CO<sub>2</sub>.

**Large Fire**

Dry chemical, Foam.

**Unsuitable Extinguishing Media** Water jet.

**Specific Hazards Arising from the Chemical**

Product is extremely flammable aerosol.

Hardened foam is an organic matter & will burn in the presence of sufficient heat, oxygen & ignition source.

**Hazardous Combustion Products** On burning, releases toxic & corrosive gases (phosphorous oxides, nitrous vapors, hydrogen chloride, carbon monoxide & carbon dioxide).

**Protective equipment and precautions for firefighters**

In event of fire, cool tanks w/ water spray. Move containers from fire area if it can be done w/o risk. Self-contained breathing apparatus & full protective clothing must be worn.

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures****Personal Precautions**

Eliminate all ignition sources (no smoking, flares, sparks or flames in area). Local authorities should be advised if significant spillages can not be contained. Ensure adequate ventilation. Keep individuals away from & upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Remain upwind. Ventilate closed spaces prior to entering. Keep unnecessary personnel away. Keep out of low areas. Wear appropriate protective equipment/clothing during clean-up.

**Environmental Precautions**

See Section 12 for additional Ecological Information. Do not contaminate water.

**Methods and material for containment and cleaning up****Methods for Containment**

Prevent further leakage or spillage if safe to do so.

**Methods for Clean-Up**

Remove from surfaces by scraping up excess material & removing residual residue w/ cloth & a solvent such as acetone or mineral spirits. Hardened foam can only be removed physically or mechanically by scraping, buffing, etc. This material & its container must be disposed of as hazardous waste. Dispose of plastic waste material (foam plastic) in accordance w/ all applicable guidelines & regs.

## 7. HANDLING AND STORAGE

**Precautions for safe handling****Advice on Safe Handling**

Handle in accordance with good industrial hygiene and safety practice. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. — No smoking. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin, eyes or clothing. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Wash face, hands, and any exposed skin thoroughly after handling. In case of insufficient ventilation, wear suitable respiratory equipment. Contaminated work clothing should not be allowed out of the workplace. Do not spray on an open flame or other ignition source. Pressurized container. Do not pierce or burn, even after use.

**Conditions for safe storage, including any incompatibilities****Storage Conditions**

Store locked up. Protect from sunlight. Flammable compressed gas storage. Store in well-ventilated area. Keep out of reach of children & pets. Keep away from food, drink & animal feeding stuffs. Store in cool, dry area. Recommended storage temperature is between 40°F & 78°F (4.4°C & 25.5°C). Storage above 104°F (40°C) will reduce shelf life.

Protect containers from heat. Protect from freezing.

**Incompatible Materials**

Strong acids, strong bases, amines.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Exposure Guidelines**

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
4,4- methylenediphenyl diisocyanate (MDI) 101-68-8	TWA: 0.005 ppm	(vacated) Ceiling: 0.02 ppm regulated under Methylene bisphenyl isocyanate (vacated) Ceiling: 0.2 mg/m <sup>3</sup> regulated under Methylene bisphenyl isocyanate Ceiling: 0.02 ppm Ceiling: 0.2 mg/m <sup>3</sup>	IDLH: 75 mg/m <sup>3</sup> Ceiling: 0.020 ppm 10 min Ceiling: 0.2 mg/m <sup>3</sup> 10 min TWA: 0.005 ppm TWA: 0.05 mg/m <sup>3</sup>
Propane 74-98-6	TWA: 1000 ppm	TWA: 1000 ppm TWA: 1800 mg/m <sup>3</sup> (vacated) TWA: 1000 ppm (vacated) TWA: 1800 mg/m <sup>3</sup>	IDLH: 2100 ppm TWA: 1000 ppm TWA: 1800 mg/m <sup>3</sup>
Isobutane 75-28-5	TWA: 1000 ppm	-	TWA: 800 ppm TWA: 1900 mg/m <sup>3</sup>

**Appropriate engineering controls****Engineering Controls**

Ensure adequate ventilation, especially in confined areas. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation (typically 10 air changes/hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If limits have not been established, maintain airborne levels to an acceptable level.

**Individual protection measures, such as personal protective equipment**

<b>Eye/Face Protection</b>	Safety glasses as a minimum for protection.
<b>Skin and Body Protection</b>	Wear suitable protective clothing.
<b>Respiratory Protection</b>	Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release. When workers are facing concentrations above the exposure limit they should use appropriate certified respirators.
<b>General Hygiene Considerations</b>	Do not eat, drink or smoke when using this product. Avoid contact with skin, eyes or clothing. Wash contaminated clothing before reuse.

**9. PHYSICAL AND CHEMICAL PROPERTIES****Information on basic physical and chemical properties**

<b>Physical State</b>	Aerosol		
<b>Appearance</b>	Yellow to straw	<b>Odor</b>	Characteristic
<b>Color</b>	Yellow to straw	<b>Odor Threshold</b>	Not determined

<u>Property</u>	<u>Note: The information below is not intended for use in preparing product specifications</u>	<u>Remarks • Method</u>
pH	Not determined	
Melting Point/Freezing Point	Not determined	
Boiling Point/Boiling Range	Not determined	
Flash Point	~ 0 °C / ~ 32 °F based for propellant	
Evaporation Rate	Not determined	
Flammability (Solid, Gas)	Not determined	
Upper Flammability Limits	11.0%	
Lower Flammability Limit	1.5%	
Vapor Pressure	Not determined	
Vapor Density	>1	
Specific Gravity	~ 1.3 g/cm <sup>3</sup> or less	@ 68°F (20°C)
Water Solubility	Insoluble in water	Reacts with water
Solubility in other solvents	Soluble in organic solvents	
Partition Coefficient	Not determined	
Autoignition Temperature	Product is not self igniting	
Decomposition Temperature	Not determined	
Kinematic Viscosity	Not determined	
Dynamic Viscosity	Not determined	
Explosive Properties	Not determined	
Oxidizing Properties	Not determined	
VOC Content	< = 26%/wt	

**10. STABILITY AND REACTIVITY****Reactivity**

Product will react with water.

**Chemical Stability**

Stable under recommended storage conditions.

**Possibility of Hazardous Reactions**

Reacts violently w/ some acids &/or bases.

<b>Hazardous Polymerization</b>	May polymerize w/ many compounds, eg: strong bases & amines.
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**Conditions to Avoid**

Avoid storage in temperatures exceeding 104°F (40°C). Protect against mechanical shocks. Avoid heat & moisture.

**Incompatible Materials**

Strong acids, strong bases, amines.

**Hazardous Decomposition Products**

On burning, releases toxic & corrosive gases (phosphorous oxides, nitrous vapors, hydrogen chloride, carbon monoxide &/or carbon dioxide. On heating, releases toxic/combustible gases/vapors (hydrogen cyanide).

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure****Product Information**

<b>Eye Contact</b>	Causes serious eye irritation.
<b>Skin Contact</b>	Causes skin irritation. May cause an allergic skin reaction.
<b>Inhalation</b>	Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
<b>Ingestion</b>	Ingestion may cause irritation to mucous membranes.

**Component Information**

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Methylenediphenyl diisocyanate isomers (Polymeric MDI) 9016-87-9	= 49 g/kg ( Rat )	> 9400 mg/kg ( Rabbit )	= 490 mg/m <sup>3</sup> ( Rat ) 4 h
4,4- methylenediphenyl diisocyanate (MDI) 101-68-8	= 9200 mg/kg ( Rat )	-	-
Tris (1-chloro-2-propyl) phosphate 13674-84-5	= 500 mg/kg ( Rat )	> 5000 mg/kg ( Rat ) = 1230 mg/kg ( Rabbit )	= 5 mg/L ( Rat ) 4 h > 17.8 mg/L ( Rat ) 1 h
Propane 74-98-6	-	-	= 658 mg/L ( Rat ) 4 h
Isobutane 75-28-5	-	-	= 658 mg/L ( Rat ) 4 h
Dimethyl ether 115-10-6	-	-	= 308.5 mg/L ( Rat ) 4 h

**Information on physical, chemical and toxicological effects**

**Symptoms** Please see section 4 of this SDS for symptoms.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Sensitization** May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**Germ cell mutagenicity** May cause genetic defects.

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen. However, the product as a whole has not been tested.

Chemical Name	ACGIH	IARC	NTP	OSHA



Methylenediphenyl diisocyanate isomers (Polymeric MDI) 9016-87-9		Group 3		
4,4- methylenediphenyl diisocyanate (MDI) 101-68-8		Group 3		

IARC (International Agency for Research on Cancer)

Group 3 IARC components are "not classifiable as human carcinogens"

**STOT - repeated exposure** May cause damage to organs through prolonged or repeated exposure.

**Chronic toxicity** May result in CNS disorder (eg: narcosis involving a loss of coordination, weakness, fatigue, mental confusion & blurred vision) &/or damage. Signs & Symptoms: Narcosis. Decrease in motor functions. Behavioral changes.

**Target organ effects** Central nervous system (CNS).

#### Numerical measures of toxicity

Not determined

## 12. ECOLOGICAL INFORMATION

#### Ecotoxicity

May cause long lasting harmful effects to aquatic life.

#### Component Information

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Tris (1-chloro-2-propyl) phosphate 13674-84-5	45: 72 h Desmodesmus subspicatus mg/L EC50 4: 96 h Pseudokirchneriella subcapitata mg/L EC50	56.2: 96 h Brachydanio rerio mg/L LC50 static 180: 96 h Leuciscus idus mg/L LC50 static 98: 96 h Pimephales promelas mg/L LC50 static 30: 96 h Poecilia reticulata mg/L LC50 static		63: 48 h Daphnia magna mg/L EC50

#### Persistence/Degradability

Not readily biodegradable

#### Bioaccumulation

Does not accumulate in organisms

#### Mobility

Volatile Organic Compounds VOC's: 26%/wt

Solubility in/reaction with water: Insoluble in water

Chemical Name	Partition Coefficient
Tris (1-chloro-2-propyl) phosphate 13674-84-5	2.59
Propane 74-98-6	2.3
Isobutane 75-28-5	2.88
Dimethyl ether 115-10-6	-0.18

#### Other Adverse Effects

Not determined

## 13. DISPOSAL CONSIDERATIONS



**Waste Treatment Methods****Disposal of Wastes**

This material & its container must be disposed of as hazardous waste. Must be incinerated in a suitable incineration plant holding a permit delivered by competent authorities. Do not dispose of waste into sewer. Do not allow this material to drain into sewers/water supplies. This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA it is the responsibility of the user of the product to determine, @ time of disposal, whether product meets RCRA criteria for hazardous waste. Dispose of in accordance w/ all applicable regulations. Waste from residues/unused products: Dispose of in accordance w/ local regs.

**Contaminated Packaging**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

**14. TRANSPORT INFORMATION****Note**

Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

**DOT**

UN/ID No	UN1950
Proper Shipping Name	Aerosols
Hazard Class	2.1

**IATA**

UN/ID No	UN1950
Proper Shipping Name	Aerosols, flammable
Hazard Class	2.1
ERG Code	10L

**IMDG**

UN/ID No	UN1950
Proper Shipping Name	Aerosols
Hazard Class	2.1

**15. REGULATORY INFORMATION****International Inventories**

TSCA	Not Listed
DSL	Listed
NDSL	Not Listed
EINECS	Not Listed
ELINCS	Not Listed
ENCS	Not Listed
IECSC	Listed
KECL	Listed
PICCS	Listed
AICS	Listed

Legend:

*TSCA - United States Toxic Substances Control Act Section 8(b) Inventory*  
*DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List*  
*EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances*  
*ENCS - Japan Existing and New Chemical Substances*  
*IECSC - China Inventory of Existing Chemical Substances*  
*KECL - Korean Existing and Evaluated Chemical Substances*  
*PICCS - Philippines Inventory of Chemicals and Chemical Substances*  
*AICS - Australian Inventory of Chemical Substances*

**US Federal Regulations****CERCLA**

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
4,4- methylenediphenyl diisocyanate (MDI) 101-68-8	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ

**SARA 311/312 Hazard Categories**

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	Yes
Sudden Release of Pressure Hazard	Yes
Reactive Hazard	Yes

**SARA 313**

Chemical Name	CAS No	Weight-%	SARA 313 - Threshold Values %
Methylenediphenyl diisocyanate isomers (Polymeric MDI) - 9016-87-9	9016-87-9	<30	1.0
4,4- methylenediphenyl diisocyanate (MDI) - 101-68-8	101-68-8	<30	1.0

**CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

**US State Regulations****California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Methylenediphenyl diisocyanate isomers (Polymeric MDI) 9016-87-9	X		
4,4- methylenediphenyl diisocyanate (MDI) 101-68-8	X		X
Propane 74-98-6	X	X	X
Isobutane 75-28-5	X	X	X

Dimethyl ether 115-10-6	X	X	X
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### 16. OTHER INFORMATION

<u>NFPA</u>	<b>Health Hazards</b>	<b>Flammability</b>	<b>Instability</b>	<b>Special Hazards</b>
	2	4	1	Not determined
<u>HMIS</u>	<b>Health Hazards</b>	<b>Flammability</b>	<b>Physical Hazards</b>	<b>Personal Protection</b>
	2	4	1	Not determined

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Revision Note New format

#### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet