



Safety Data Sheet

Issue Date: 10-Jul-2013

Revision Date: 25-Oct-2017

Version 1

1. IDENTIFICATION

Product Identifier

Product Name Triple & Minimal Expanding Polyurethane Foam

Other means of identification

SDS # RD-0113R

Product Code 0909, 0912 Triple Expanding & 0913, 0920 Minimal Expanding Polyurethane Foam
UN/ID No UN1950

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

Appearance Yellow to straw

Physical state Aerosol

Odor Characteristic

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
Gases Under Pressure	Compressed Gas

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
Contains gas under pressure; may explode if heated

**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 must not be allowed out of the workplace
Wear protective gloves
Do not breathe dust/fume/gas/mist/vapors/spray
Keep away from heat/sparks/open flames/hot surfaces. — No smoking
Pressurized container: Do not pierce or burn, even after use
Do not spray on an open flame or other ignition source

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
If eye irritation persists: Get medical advice/attention
IF ON SKIN: Wash with plenty of water and soap
Take off contaminated clothing and wash before reuse
If skin irritation or rash occurs: Get medical advice/attention
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. Store in a well-ventilated place
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

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

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

4. FIRST AID MEASURES

First Aid Measures

General Advice	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.
Eye Contact	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.
Skin Contact	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.
Inhalation	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.
Ingestion	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 CO₂.

Large Fire Dry chemical, Foam.

Unsuitable Extinguishing Media Water jet.

Specific Hazards Arising from the Chemical

Product is an 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

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 must 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 ³ regulated under Methylene bisphenyl isocyanate Ceiling: 0.02 ppm Ceiling: 0.2 mg/m ³	IDLH: 75 mg/m ³ Ceiling: 0.020 ppm 10 min Ceiling: 0.2 mg/m ³ 10 min TWA: 0.005 ppm TWA: 0.05 mg/m ³
Propane 74-98-6	: See Appendix F: Minimal Oxygen Content, explosion hazard	TWA: 1000 ppm TWA: 1800 mg/m ³ (vacated) TWA: 1000 ppm (vacated) TWA: 1800 mg/m ³	IDLH: 2100 ppm TWA: 1000 ppm TWA: 1800 mg/m ³
Isobutane 75-28-5	STEL: 1000 ppm explosion hazard	-	TWA: 800 ppm TWA: 1900 mg/m ³

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

Eye/Face Protection

Safety glasses as a minimum for protection.

Skin and Body Protection

Refer to 29 CFR 1910.138 for appropriate skin and body protection.

Respiratory Protection 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.

General Hygiene Considerations 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

Physical state	Aerosol	Odor	Characteristic
Appearance	Yellow to straw	Odor Threshold	Not determined
Color	Yellow to straw		

Property

Note: The information below is not intended for use in preparing product specifications **Remarks • Method**

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	
Flammability Limits in Air		
Upper Flammability Limits	11.0%	
Lower Flammability Limit	1.5%	
Vapor Pressure	Not determined	
Vapor Density	>1	
Relative Density	~ 1.3 g/cm ³ 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	
Auto-ignition 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	

Other Information

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.

Hazardous Polymerization May polymerize w/ many compounds, eg: strong bases & amines.

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**

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

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
4,4- methylenediphenyl diisocyanate (MDI) 101-68-8	= 9200 mg/kg (Rat) = 31600 mg/kg (Rat)	-	= 369 mg/m ³ (Rat) 4 h
Tris (1-chloro-2-propyl) phosphate 13674-84-5	= 1500 mg/kg (Rat)	= 1230 mg/kg (Rabbit)	> 4.6 mg/L (Rat) 4 h
Methylenediphenyl diisocyanate isomers (Polymeric MDI) 9016-87-9	= 49 g/kg (Rat)	> 9400 mg/kg (Rabbit) > 9.4 g/kg (Rabbit)	= 490 mg/m ³ (Rat) 4 h
Propane 74-98-6	-	-	> 800000 ppm (Rat) 15 min
Isobutane 75-28-5	-	-	= 658 mg/L (Rat) 4 h
Dimethyl ether 115-10-6	-	-	= 164000 ppm (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
4,4- methylenediphenyl diisocyanate (MDI) 101-68-8		Group 3		
Methylenediphenyl diisocyanate isomers (Polymeric MDI) 9016-87-9		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

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral)	51,638.00 mg/kg
ATEmix (dermal)	62,667.00 mg/kg
ATEmix (inhalation-gas)	1,003,436.66 mg/L
ATEmix (inhalation-dust/mist)	0.30 mg/L
ATEmix (inhalation-vapor)	822.00 mg/L

12. ECOLOGICAL INFORMATION

Ecotoxicity

May cause long lasting harmful effects to aquatic life.

Component Information

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Tris (1-chloro-2-propyl) phosphate 13674-84-5	45: 72 h <i>Desmodesmus subspicatus</i> mg/L EC50 4: 96 h <i>Pseudokirchneriella subcapitata</i> mg/L EC50	98: 96 h <i>Pimephales promelas</i> mg/L LC50 static 180: 96 h <i>Leuciscus</i> <i>idus</i> mg/L LC50 static 56.2: 96 h <i>Brachydanio rerio</i> mg/L LC50 static 30: 96 h <i>Poecilia reticulata</i> mg/L LC50 static	63: 48 h <i>Daphnia magna</i> 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	2.3

74-98-6	
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**

Chemical Name	TSCA	DSL/NDSL	EINECS/E LINCS	ENCS	IECSC	KECL	PICCS	AICS
Methylenediphenyl diisocyanate isomers (Polymeric MDI)	X	X		Present	X	Present	X	X
4,4- methylenediphenyl diisocyanate (MDI)	X	X	X	Present	X	Present	X	X
Tris (1-chloro-2-propyl) phosphate	X	X	X	Present	X	Present	X	X
Propane	X	X	X	Present	X	Present	X	X

Isobutane	X	X	X	Present	X	Present	X	X
Dimethyl ether	X	X	X	Present	X	Present	X	X

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**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

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	CAS No.	Weight-%	SARA 313 - Threshold Values %
4,4- methylenediphenyl diisocyanate (MDI) - 101-68-8	101-68-8	15	1.0
Methylenediphenyl diisocyanate isomers (Polymeric MDI) - 9016-87-9	9016-87-9	15	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**U.S. State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
4,4- methylenediphenyl diisocyanate (MDI) 101-68-8	X	X	X
Methylenediphenyl diisocyanate isomers (Polymeric MDI) 9016-87-9	X		
Propane 74-98-6	X	X	X
Isobutane 75-28-5	X	X	X
Dimethyl ether 115-10-6	X	X	X

16. OTHER INFORMATION

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

Issue Date: 10-Jul-2013
Revision Date: 25-Oct-2017
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