



SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name RO61-46

Recommended Use of the Chemical and Restrictions on Use

Recommended Use Polyester Bonding Putty

Details of the Supplier of the Safety Data Sheet

Supplier's details

DBF, Inc.
18576 Krause
PO Box 2385
Riverview, MI 48193
Phone: 734-285-1480

24 Hour Emergency Telephone Number Chemtrec 800-424-9300 (North America)

2. HAZARDS IDENTIFICATION

Classification

Acute Toxicity: Inhalation	Category 4
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2A
Carcinogenicity	Category 2
Reproductive Toxicity	Category 2
Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure) Inhalation	Category 1
Aspiration Hazard	Category 1



Signal Word

Danger

Hazard Statements

Harmful if inhaled.
Causes skin irritation.
Causes serious eye irritation.
Suspected of damaging the unborn child.
Suspected of causing cancer.
May be fatal if swallowed and enters airways.
May cause respiratory irritation.
Causes damage to organs through prolonged or repeated exposure (ears, kidneys)

Precautionary Statements - Prevention

Wear protective gloves/protective clothing/eye protection/face protection.
 Keep away from heat, sparks, open flames and hot surfaces – No smoking.
 Use explosion proof electrical, ventilating, lighting, and all material handling equipment.
 Use only non-sparking tools. Take precautionary measures against static discharge.
 Use outdoors or in well-ventilated area. Keep container tightly closed.
 Do not breathe dust/fume/gas/mist/vapors/spray.
 Do not eat, drink or smoke when using this product
 Use only outdoors or in a well-ventilated area.
 Wash face, hands and any exposed skin thoroughly after handling.
 Keep dust/air mixtures away from ignition sources.
 Hazardous polymerization can occur under certain conditions. Avoid excessive heat, direct sunlight, peroxides, and other polymerization catalysts. Store in a cool place and maintain proper concentrations of inhibitor and oxygen.

Precautionary Statements - Response

Get medical attention if you feel unwell.
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for several minutes. If eye irritation persists: Get medical attention
 IF ON SKIN (or hair): Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical attention.
 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

Precautionary Statements - Storage

Store containers in a safe place. Store in a well-ventilated place. Keep container tightly closed. Keep cool.

Precautionary Statements - Disposal

Dispose of contents/container in accordance with all local, regional, national and international regulations.
 Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
Calcium Carbonate	471-34-1	<60
Unsaturated Polyester Polymer	Mixture	<29
Styrene	100-42-5	<12
Amorphous Silica	112945-52-5	<8
2-phenylpropene	98-83-9	<1

4. FIRST AID MEASURES

First Aid Measures

General Advice	Provide this SDS to medical personnel for treatment.
Eye Contact	Immediately flush with plenty of water for at least 10 minutes occasionally lifting upper and lower eyelids. Check for and remove contacts lenses. Get medical attention.
Skin Contact	Flush contaminated skin with plenty of water for at least 10 minutes. Remove contaminated clothing and shoes. Get medical attention. Wash contaminated clothing before reuse. Clean shoes thoroughly before use.
Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt, or waistband.
Ingestion	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed

person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention following exposure of if feeling unwell. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain and open airway. Loosen tight clothing such as collar, tie, belt or waistband.

Most Important Symptoms and Effects, both Acute and Delayed

Potential acute health effects

Eye contact	Causes serious eye irritation.
Inhalation	Harmful if inhaled. May cause respiratory irritation.
Skin contact	Causes skin irritation.
Ingestion	Irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

Eye Contact	Adverse symptoms may include the following: pain or irritation, watering, redness.
Inhalation	Adverse symptoms may include the following: respiratory tract irritation, coughing.
Skin contact	Adverse symptoms may include the following: irritation, redness.
Ingestion	No specific data.

Indication of any Immediate Medical Attention and Special Treatment Needed, if necessary

Note to Physicians	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
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5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable Extinguishing Media	Dry chemical, CO2, water spray (fog) or foam.
Unsuitable Extinguishing Media	Do not use water jet.
Specific Hazards Arising from the chemical	At elevated temperatures, containers may rupture. Heat may cause the containers to explode.
Hazardous thermal decomposition products	Decomposition products may include the following materials: carbon dioxide, carbon monoxide.
Special protective actions for firefighters	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
Special protective equipment for firefighters	Firefighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

For non-emergency personal	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flames, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
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For emergency responders	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergence personnel".
Environmental Precautions	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform relevant authorities if the product has environmental pollution (sewers, waterways, soil or air)

Methods and Material for Containment and Cleaning Up

Small spill	Stop leak if without risk. Move containers from spill area. Scoop into appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Large spill	Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Protective measures	Put on appropriate protective equipment (see Section 8). Avoid exposure – obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Empty containers retain product residue and can be hazardous. Do not reuse containers.
Advice on general Occupational hygiene	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Conditions for Safe Storage, Including any Incompatibilities	Do not store above 38°C (100.4°F). Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control measures

Occupational exposure limits

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Calcium Carbonate	-	TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 15 mg/m ³ total dust (vacated) TWA: 5 mg/m ³ respirable fraction	TWA: 10 mg/m ³ total dust TWA: 5 mg/m ³ respirable dust
Styrene	TWA: 20 ppm 8 hours TWA: 85 mg/m ³ 8 hours STEL: 40 ppm 15 minutes STEL: 170 mg/m ³ 15 minutes	TWA: 100 ppm 8 hours CEIL: 200 ppm AMP: 600 ppm 5 minutes	TWA: 50 ppm 10 hours TWA: 215 mg/m ³ 10 hours STEL: 100 ppm 15 minutes STEL: 425 mg/m ³ 15 minutes
2-phenylpropene	TWA: 10 ppm 8 hours	CEIL: 100 ppm CEIL: 480 mg/m ³	-
Amorphous Silica	-	TWA: 6 mg/m ³	-

Appropriate Engineering Controls Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of the environmental protection legislation.

Individual Protection Measures

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gasses or dusts.

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Body protection

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory Protection

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respiratory selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Property Product passed Flammable Solid test and is not combustible or flammable per burn rate

Physical State	test. The physical-chemical properties of this material have not been fully investigated.	
Appearance	Solid	
Color	Semi-solid viscous paste	
Odor	Gray	
Odor Threshold	Styrene	
pH	0.1 ppm	
Melting Point	Not determined	
Boiling Point	145°C (293°F)	(For unsaturated polyester resin)
Flash Point	31°C (88°F)	(Closed Cup)
Evaporation Rate	Less than 1	(for styrene) (Butyl Acetate=1)
Upper Flammability Limits	6.1%	
Lower Flammability Limit	1.1%	
Vapor Pressure	0.57 kPa (4.3 mmHg)	(room temperature) (for styrene)
Vapor Density	3.6	(for Styrene) (Air = 1)
Specific Gravity	1.55-1.65	
Solubility in water	Insoluble	
Solubility in Other Solvents	Not available	
Partition Coefficient	Not determined	
Auto-ignition Temperature	490°C (914°F)	(for styrene)
Decomposition Temperature	Not available	Low stability hazard expected at normal operating temperatures
Viscosity	Not determined	
Styrene loss after catalyzing	Less than .1%	When used as intended.

10. STABILITY AND REACTIVITY

Reactivity	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	The Product is stable.
Possibility of hazardous reactions	Hazardous reactions or instability may occur under certain conditions or storage or use.
Conditions to Avoid	Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat and flame. Hazardous polymerization may occur under certain conditions of storage our use. Keep away from heat and direct sunlight. Keep away from heat and flame. Keep away from oxidizing agents.
Incompatible Materials	Reactive or incompatible with the oxidizing materials, acids, and alkalis. Incompatible with alkali metals, some alkalis, and some strong acids.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Styrene	LC50 Inhalation Gas	Rat	2770 ppm	4 hours
	LC50 Inhalation Vapor	Rat	11800 mg/m ³	4 hours
	LD50 Oral	Rat	2650 mg/kg	-
2-phenylpropene	LD50 Oral	Rat	4900 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
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Styrene	Eyes – Mild irritant	Human	-	50 ppm	-
	Eyes – Moderate Irritant	Rabbit	-	24 hours 100 mg	-
	Eyes – Severe Irritant	Rabbit	-	100 mg	-
	Skin – Mild irritant	Rabbit	-	500 mg	-
	Skin – Moderate irritant	Rabbit	-	100 Percent	-
2-phenylpropene	Eyes - Mild irritant	Rabbit	-	91 mg	-
	Skin - Moderate irritant	Rabbit	-	100 %	-

Sensitization May cause skin sensitization by skin contact.

Mutagenicity Not Available.

Carcinogenicity

Classification

Product/ingredient name	OSHA	IARC	NTP
Styrene	-	2A	Reasonably anticipated to be a human carcinogen.
2-phenylpropene	-	2B	-

- 1) Negative Study A published study concluded that the mechanism for producing cancer in mice exposed to styrene is not applicable in human metabolism. (June 2013 Pharmacology & Toxicology 66 (2013))
- 2) Negative Study A recent update to an extensive study of reinforced plastic workers from 1948-1977 concluded that there was no coherent evidence that styrene exposure increased risk of cancer (March 2013 Epidemiology Vol. 24 Issue 2)
- 3) Positive Study Styrene induced pulmonary toxicity and carcinogenicity in mice was shown to be caused by a metabolite of styrene, probably styrene oxide. (Dec.2001 Toxicology Vol.169 Issue 2)

Reproductive toxicity Suspected of damaging the unborn child.

Teratogenicity Not available

Specific target organ toxicity (single exposure)

Name	Category	Routes of exposure	Target Organs
Styrene	Category 3	Not applicable	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Name	Category	Routes of exposure	Target Organs
Styrene	Category 1	Inhalation	ears

Aspiration hazard

Name	Result
Styrene	Aspiration Hazard – Category 1

Information on the likely routes of exposure Not available

Potential acute health effects

- Eye contact Causes serious eye irritation.
- Inhalation Harmful if inhaled. May cause respiratory irritation.
- Skin contact Causes skin irritation.
- Ingestion Irritation to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact Adverse symptoms may include the following: pain, or irritation, watering, redness.
- Inhalation Adverse symptoms may include the following: respiratory tract irritation, coughing.
- Skin contact Adverse symptoms may include the following: irritation, redness.
- Ingestion Adverse symptoms may include the following: irritating to mouth, throat and stomach.

12. ECOLOGICAL INFORMATION

Toxicity

Product /ingredient name	Result	Species	Exposure
Styrene	Acute EC50 1400 ug/l Fresh water	Algae – Pseudokirchneriella subcapitata	72 hours
	Acute EC50 720 ug/l Fresh water	Algae – Pseudokirchneriella subcapitata	96 hours
	Acute EC50 4700 ug/l Fresh water	Daphnia – Daphnia magna	48 hours
	Acute LC50 52000 ug/l Marine water	Crustaceans – Artemia salina – Nauplii	48 hours
	Acute LC50 4020 ug/l Fresh water	Fish – Pimephales promelas	96 hours
	Chronic NOEC 63 ug/l Fresh water	Algae – Pseudokirchneriella subcapitata	96 hours

Persistence and Degradability Not determined

Bioaccumulative potential

Product/ingredient	LogP _{ow}	BCF	Potential
Styrene	0.35	13.49	low
2-phenylpropene	3.48	15 to 140	low

Mobility in soil

Soil/water partition coefficient (K_{oc}) Not available

Other adverse effects No known significant effects of critical hazards.

13. DISPOSAL CONSIDERATIONS

Disposal Methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements or environmental protection and waste disposal legislation and any regional local authority requirements. Avoid disposal. Attempt to use product completely in accordance with intended. Waste packaging should be recycled. Incineration or landfill should be considered when recycling is not feasible.

Special precautions

This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

14. TRANSPORT INFORMATION

DOT Not regulated

IATA Not regulated

IMDG Not regulated

15. REGULATORY INFORMATION

U.S. Feral regulations

United States inventory (TSCA 8b) All components are active or exempted.

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

SARA 313

Chemical Name	CAS No	Weight-%
Styrene - 100-42-5	100-42-5	<12

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

Massachusetts	Styrene
New York	Styrene
New Jersey	Styrene monomer

California Proposition 65

WARNING: This product contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm: Styrene; Methanol; N-methylpyrrolidone; Alpha-methylstyrene.

16. OTHER INFORMATION

NFPA	Health Hazards	Flammability	Instability	Special Hazards
	2	0	1	Not determined
HMIS	Health Hazards	Flammability	Physical Hazards	Personal Protection
	2	0	1	Not determined

Revision Date June 2022
Revision Note

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