

**G&H® Wire Company**2165 Earlywood Drive  
Franklin, IN 46131

(317) 346-6655 International

(317) 346-6663 Fax

E-mail: ghmail@ghwire.com

**MATERIAL SAFETY DATA SHEET DIRECTIVE 91/155/EEC**

## 1. SUBSTANCE/PREPARATION AND COMPANY IDENTIFICATION

## 1.1 Chemical Nature, Sales Name, Use:

Radel R-5100 polyphenylsulfone resin High Heat Bite Sticks for the orthodontic use

## 1.2 Company Identification:

G&H Wire Company  
 P.O. Box 248  
 Greenwood, Indiana 46142  
 Telephone: 317-346-6655  
 Facsimile: 317-346-6663

## 1.3 Emergency Contact:

Poison Control Center

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS#	Range % by Weight
Polyphenylsulfone	25608-64-4	
Titanium dioxide	13463-67-7	0-7
Carbon black	1333-86-4	0-5

NOTE: Metal insert is 316 stainless steel which is on a different msds

## 3. HAZARDS IDENTIFICATION

- 3.1 Eye contact: No significant health hazards identified. Particles or fibers may cause slight discomfort similar to getting dust in the eye.
- 3.2 Skin contact: No significant health hazards identified. Particles or fibers may cause slight discomfort similar to rubbing sand against the skin.
- 3.3 Inhalation: No significant irritation expected other than mechanical irritation.
- 3.4 Ingestion: No significant health hazards identified

## 4. FIRST-AID MEASURES

- 4.1 Inhalation: If adverse effects occur, remove to uncontaminated area. Get medical attention.
- 4.2 Skin Contact: Treat as ordinary burn if molten product contacts skin.
- 4.3 Eye Contact: Flush immediately with water. Get medical attention if irritation develops.
- 4.4 Ingestion: If a large amount of raw material is ingested, get medical attention.

---

## 5. FIRE-FIGHTING MEASURES

---

- 5.1 Flashpoint: Non-flammable
- 5.2 Auto-ignition temperature: 936°F (502°C)
- 5.3 Suitable Extinguishing Media: Agents approved for Class A hazards, foam, steam, or water fog.
- 5.4 Protective Equipment for Fire-Fighters: Do not enter confined fire space without full bunker gear, which includes a positive pressure NIOSH approved self-contained breathing apparatus. Cool fire exposed container with water.

---

## 6. ACCIDENTAL RELEASE MEASURES

---

- 6.1 Contain and remove by mechanical means. Vacuum or seep out; avoid producing dust.

---

## 7. HANDLING AND STORAGE

---

- 7.1 Handling: minimize dust generation and accumulation. Take appropriate measures to prevent static discharges, which may include thorough electrical interconnecting, grounding of equipment, and /or conveyance under inert gases.
- 7.2 Storage: No special requirements.

---

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

---

- 8.1 Eye: None required; however use of eye protection is good industrial practice. Use dust goggles if high dust concentration is generated.
- 8.2 Skin: None required' however, use of protective gloves/clothing is good industrial practice.
- 8.3 Inhalation: None required; however, use of adequate ventilation is good industrial practice. Do not breathe dust. If ventilation is inadequate, use a NIOSH certified respirator which will protect against organic vapor and dust/mist.
- 8.4 Exposure Guidelines:

<i>Component</i>	<i>CAS#</i>	<i>Exposure Limits</i>
Polyphenylsulfone	25608-64-4	No exposure limit established
Titanium dioxide	13463-67-7	OSHA PEL: 10mg/m <sup>3</sup> (total dust) OSHA Total Dust: 10mg/m <sup>3</sup> (1989), 15mg/m <sup>3</sup> (1971) OSHA Respirable Dust: 5mg/m <sup>3</sup> (1989), 5mg/m <sup>3</sup> (1971) ACGIH TLV-TWA: 10mg/m <sup>3</sup> (total dust)
Carbon black	1333-86-4	OSHA PEL: 3.5mg/m <sup>3</sup> (1989) (1971) ACGIH TLV-TWA 3.5 mg/m <sup>3</sup> ACGIH TLV-STEL: 7 mg/m <sup>3</sup>

---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

---

- 9.1 Form: Solid  
Color: Opaque or colored pellets  
Odor: Odorless

- Softening Point/Range: 428° F (220°C)  
Boiling Point: not determined
- 9.2 Melting Point: not determined
  - 9.3 Vapour Pressure (20°C): not determined
  - 9.4 Density (20°C): Specific gravity = 1.29
  - 9.7 Solubility in: Water (20°C): Negligible below 0.1%
  - 9.8 PH-Value (at 10g/1H<sub>2</sub>O): Not determined

---

## 10. STABILITY AND REACTIVITY

---

- 10.1 Stability: Stable up to 800°F, but prolonged exposure as temperatures in the 750-800° range can result in severe degradation.
- 10.2 Conditions to Avoid: generating dust
- 10.3 Materials to Avoid: The normal temperature for processing this resin exceeds the decomposition and /or ignition temperature of some other polymeric resins that can contaminate RADEL R resin and /or cause fumes.
- 10.4 Hazardous Decomposition Products: Will not occur

---

## 11. TOXICOLOGICAL INFORMATION

---

- 11.1 Oral Toxicity: testing not conducted
- 11.2 Inhalation: testing not conducted
- 11.3 Skin Irritation: testing not conducted
- 11.4 Eye Irritation: testing not conducted
- 11.5 Other: Specific toxicity tests have not been conducted on this product. Our hazard evaluation is based on information from similar products, the ingredients, technical literature, and or professional experience.  
Dense dust generated by the handling/processing of this material may be irritation to the eyes.  
Titanium dioxide has been assigned exposure limits by ACGIH and OSHA based on nuisance dust and not toxicity.

---

## 12. ECOLOGICAL INFORMATION

---

- 12.1 Ecological testing has not been performed on this product by Amoco.

---

## 13. DISPOSAL CONSIDERATIONS

---

- 13.1 Product: Dispose in compliance with local, federal, and state regulations.

---

## 14. TRANSPORT INFORMATION

---

- 14.1 Overland Transport ADR/RID/GGVS/GGVE: Not regulated
- 14.2 Sea Transport GGVSEA/IMDG-Code: Not regulated
- 14.3 Air Transport ICAO/IATA-DGR: Not regulated
- 14.4 Inland Waterway Transport ADNR: Not regulated

---

## 15. REGULATORY INFORMATION

---

- Preparation as defined by the (German) Chemicals Act (dated 4/03/1990).

- 15.1 TA-Air: This product, to the best of our knowledge, does not contain and is not manufactured with any Class I or Class II Ozone Depleting Chemicals (ODCs).  
Water Pollution 1:

---

16. OTHER INFORMATION

---

- 16.1 The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. Therefore, it should not be construed as guaranteeing specific properties. MSDS released 06-16-08.