SAFETY DATA SHEET

SECTION 1. INDENTIFICATION

Great Lakes Orthodontics
200 Cooper Ave
Tonawanda, NY 14150

716-871-1161
800-828-7626
CHEMTREC: 800-424-9300

Product Name: Blue Heavyweight Material, HIPS Widespec
Product Number: 021-047
025-031

Effective Date: 11/20/12

SECTION 2. HAZARDOUS IDENTIFICATION

Potential Health Effects:

Primary Routes of Entry

- Inhalation
- Ingestion
- Skin Contact
- Eye Contact

Medical Conditions Aggravated by Exposure

- Respiratory disorders

Human Effects and Symptoms of Overexposure:

Skin

Prolonged contact is essentially nonirritating to skin. No adverse effects anticipated by skin absorption.

Eye

Solid or dust may cause irritation or corneal injury due to mechanical action. Elevated temperatures may generate vapor levels sufficient to cause eye irritation. Effects may include discomfort and redness.

Inhalation

No adverse effects are anticipated from single exposure to dust. Vapors / fumes released during thermal processing may cause respiratory irritation.

Ingestions

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts. May cause choking if swallowed.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Components	CAS#	Amount
Styrene 1.3 butadiene copolymer	9003-55-B	> = 88.0%
White mineral oil (petroleum)	8042-47-5	< = 10.5%
Copolymer Mixture	Trade Secret	< = 10.0%

This material is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

SECTION 4. FIRST AID MEASURES

Eye Contact

Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1 – 2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician preferably an ophthalmologist. May cause injury due to mechanical action.

Skin Contact

Wash skin with plenty of water. Seek first aid or medical attention as needed. If molten material comes in contact with the skin, do not apply ice but cool under ice water or running stream of water. DO NOT attempt to remove the material from skin. Removal could result in severe tissue damage. See medical attention immediately.

Inhalation

Move person to fresh air. If effects occur, consult a physician.

Ingestion

If swallowed, seek medical attention. May cause gastrointestinal blockage. Do not give laxatives. Do not induce vomiting unless directed to do so by medical personnel.

Notes to Physician

If burn is present, treat as any thermal burn, after decontamination. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

Emergency Personnel Protective Clothing

First aid responders should pay attention to self-protection and use the recommended protective clothing (Chemical resistant gloves, splash protection). If potential for exposure exists refer to Section B for specific personal protective equipment.

SECTION 5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media

Water fog or fine spray, Dry chemical fire extinguishers, Carbon Dioxide fire extinguishers, and foam.

Special Fire Fighting Procedures

Keep people away. Isolate fire and deny unnecessary entry. Soak thoroughly with water to cool and prevent re-ignition. If material is molten, do not apply direct water stream. Use fine water spray or foam. Cool surroundings with water to localize fire zone. Hand held dry chemical or carbon dioxide extinguishers may be used for small fires.

Special Protective Equipment

Firefighters should wear positive-pressure self-contained breathing apparatus (SCBA) and protective firefighting clothing (includes firefighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

Unusual Fire / Explosion Hazards

Pneumatic conveying and other mechanical handling operations can generate combustible dust. To reduce the potential for dust explosions, do not permit dust to accumulate. Dense smoke is produced when product burns.

Hazardous Combustion Products

During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon Dioxide and Carbon Monoxide.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Spill and Leak Procedures

Sweep up. Recover spilled material if possible. Collect in suitable and properly labeled containers. See Section 13, Disposal Considerations for additional information.

Personal Precautions

Keep unnecessary and unprotected personnel from entering the area. Spilled material may cause a slipping hazard. Use appropriate safety equipment. For additional information, refer to Section 8 Exposure Controls and Personal Protection.

Environmental Precautions

Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12 Ecological Information.

SECTION 7. HANDLING & STORAGE

Handling

No smoking, open flames, or sources of ignition in handling and storage area. Good housekeeping and controlling of dusts are necessary for safe handling of product. Avoid breathing process fumes. Use with adequate ventilation. When appropriate, unique handling information for containers can be found on the product label. Workers should be protected from the possibility of contact with molten resin. Do not get molten material in eyes, on skin, or clothing. Keep away from heat, sparks, and flame. Pneumatic conveying and other mechanical handling operations can generate combustible dust. To reduce the potential for dust explosions, electronically bond and ground equipment and do not permit dust to accumulate. Dust can be ignited by static discharge.

Storage Precautions

Store in a dry place. Store in accordance with good manufacturing practices.

Further Info on Storage Conditions

Protect equipment (e.g.: storage bins, conveyors, dust collectors) with explosion vents.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Although some of the additives used in this product may have exposure guidelines, these additives are encapsulated in the product and no exposure would be expected under normal handling conditions.

Ventilation Measures

Use local exhaust ventilation or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Respiratory Protection

Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. Use an approved air purifying respirator when vapors are generated at increased temperatures or when dust or mist is present. The following should be effective types of air-purifying respirators. When dust / mist are present, use a/an particulate filter. When combinations of vapors, acids, or dusts/mists are present, use a/an organic vapor cartridge with a particulate pre-filter.

Hand Protection

Chemical protective gloves should not be needed when handling this material. Consistent with general hygienic practice for any material, skin contact should be minimized. Use gloves to protect from mechanical injury. Selection of gloves will depend on the task. Use gloves with insulation for thermal protection, when needed.

Eye Protection

Use safety glasses. If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles. If exposure causes eye discomfort, use a full face respirator.

Skin and Body Protection

No precautions other than clean body-covering clothing should be needed. When handling hot materials, a safety shower should be located in the immediate work area.

Ingestion Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating.

SECTION 9. PHYSICAL & CHEMICAL PROPERTIES

- **Form –** Pellets or Granules
- **Color –** White to off-white
- **Odor –** Odorless to mild
- **Flash Point (closed cup) –** Not applicable
- **Lower Explosion Limit –** Not applicable
- **Upper Explosion Limit –** Not applicable
- **Vapor Pressure –** Not Applicable
- **Solubility in Water –** Negligible
- **Auto-ignition Temperature –** No test data available
- **Decomposition Temperature –** No test data available
- **Specific Gravity –** 1.0 – 1.2 Estimated
- **Boiling Point –** Not applicable
- **Vapor Density –** Not applicable

SECTION 10. STABILITY & REACTIVITY

Hazardous Reactions – Hazardous polymerization will not occur.
Stability – Stable under recommended storage conditions. See Storage, Section #7.
Materials to Avoid – None known
Conditions to Avoid – Avoid temperatures above 300 °C (572 °F). Exposure to elevated temperatures can cause product to decompose.
Thermal Decomposition Products – Decomposition products depend upon temperature, air supply and the presence of other materials. Processing may release fumes and other decomposition products. At temperatures exceeding melt temperatures, polymer fragments can be released. Fumes can be irritating. Decomposition products can include and are not limited to combustible gases.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute Toxicity:

Ingestion

- Single oral LD50 has not been determined. Typical for this family of materials.
- Estimated LD50: > 5,000 mg/kg (Rat)

Skin

- The dermal LD50 has not been determined. Typical for this family of materials.
- Estimated LD50: > 2,000 mg/kg (Rat)

Inhalation

- The LC50 has not been determined.

Repeated Dose Toxicity

Additives are encapsulated in the product and are not expected to be released under normal processing conditions or foreseeable emergency.

No relevant information found for the following:

- Chronic Toxicity and Carcinogenicity
- Developmental Toxicity
- Reproductive Toxicity
- Genetic Toxicology

SECTION 12. ECOLOGICAL INFORMATION (non-mandatory)

Environmental Fate:

Movement & Partitioning

No bio-concentration of the polymeric component is expected because of its high molecular weight. In the terrestrial environment, material is expected to remain in the soil. In the aquatic environment, material will sink and remain in the sediment.

Persistence and Degradability

This water-insoluble polymeric solid is expected to be inert in the environment. Surface photo-degradation is expected with exposure to sunlight. No appreciable bio-degradation is expected.

Eco toxicity

Not expected to be acutely toxic but material in pellet or bead form may mechanically cause adverse effects if ingested by waterfowl or aquatic life.

SECTION 13. DISPOSAL CONSIDERATIONS (non-mandatory)

Waste Disposal Method

Do not dump into any sewers, on the ground, or into any body of water. All disposal practices must be incompliance with all Federal, State/Provincial, and local laws and regulations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. As your supplier, we have no control over the management practices or manufacturing processes of parties handling or using this material. The information presented here pertains only to the product as shipped in its intended condition as described in SDS section composition information. For unused and uncontaminated product, the preferred options include sending to a licensed, permitted recycler, reclaimer, incinerator, or other thermal destruction device.

SECTION 14. TRANSPORT INFORMATION (non-mandatory)

- **Non-Bulk (DOT):** Non - regulated
- **Bulk (DOT):** Non – regulated
- **IMDG:** Not - regulated
- **ICAO/IATA:** Non – regulated

SECTION 15. REGULATORY INFORMATION (non-mandatory)

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right – to – Know Act of 1986) Sections 311 and 312

- **Immediate (Acute) Health Hazard:** No
- **Delayed (Chronic) Health Hazard:** No
- **Fire Hazard:** No
- **Reactive Hazard:** No
- **Sudden Release of Pressure Hazard:** No

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right – to – Know Act of 1986) Section 313: To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

Pennsylvania (Worker and Community Right-to-Know Act): Pennsylvania hazardous substances list and/or Pennsylvania Environmental Hazardous Substance List:
To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

Pennsylvania (Worker and Community Right-to-Know Act): Pennsylvania Special Hazardous Substance List:
To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1988):
WARNING: This product contains a chemical(s) know to the State of California to cause cancer:

- Ethylbenzene – CAS# 100-41-4, <= 350.0ppm

However, please note that there is inadequate evidence of ethylbenzene causing cancer in humans. Ethylbenzene has not been classified as a carcinogen by the international Agency for Research on cancer (IARC), US Environmental Protection Agency (EPA) or the National Toxicology Program (NTP).

In March 2008, the office of Environmental Health Hazard Assessment's (OEHHA) Proposition 65 department proposed an NSRL of 54 hg/day (inhalation) for ethylbenzene. The objective of the above warning statement is to comply with the Prop 65 statute.

US Toxic Substances Control Act
All components of this product are on the TSCA Inventory or are exempt from TSCA inventory requirements under 40 CFR 720.30.
CEPA – Domestic Substances List (DSL)
All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed.

SECTION 16. OTHER INFORMATION (non-mandatory)

Not applicable