



**MATERIAL SAFETY DATA SHEET**  
**DUMBBELL AND RADIO OPAQUE SEPARATORS**  
 Part #325-302, #325-303, #325-304, #325-305, #325-307  
 Prepared according to 29CFR 1910.1200

<b>1</b>	<b>Company Identification and Chemical Product</b>
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<b>MANUFACTURED BY:</b>	ALL STAR ORTHODONTICS 4570 Progress Drive Columbus, IN 47201 (812) 314-0804 t / (812) 314-0805 f
<b>Product Trade Name:</b>	Teco-Flex 10-0001
<b>CAS Number:</b>	Not applicable for mixtures
<b>Synonyms:</b>	None
<b>Generic Chemical Name:</b>	Mixture
<b>Product Type:</b>	Polyether Aliphatic
<b>Revision Date:</b>	26-May-12
<b>Transportation Emergency:</b>	FOR TRANSPORT EMERGENCY call CHEMTREC: (+1) 703-527-3387 (outside the U.S.), 1-800-424-9300 (in the U.S.)
<b>MSDS No.</b>	11667605-2422725-3023241-102103

<b>2</b>	<b>Hazardous Ingredients</b>
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<b>Appearance</b>	Colorless to pale yellow pellets
<b>Odor</b>	Slight
<b>Principal Hazards</b>	This material has no know health hazards

<b>3</b>	<b>Composition/Information on Ingredients</b>
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<b>Hazardous Ingredients:</b>	This material has no known hazards under applicable laws.
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<b>4</b>	<b>First Aid Measures</b>
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<b>Eyes</b>	Treat as any foreign particulate matter. If hot melted material should splash into the eyes, flush eyes immediately with water for 15 minutes while holding the eyelids open. See a physician for treatment.
<b>Skin</b>	Wash with soap and water. Get medical attention if irritation develops. Launder contaminated clothing before reuse. For contact with molten product, do not remove contaminated clothing. Flush skin immediately with large amounts of cold water. If possible, submerge area in cold water. Pack with ice. DO NOT attempt to peel polymer from skin. Seek medical attention immediately.
<b>Inhalation</b>	Remove exposed person to fresh air if advser effects are observed.
<b>Oral</b>	Treat symptomatically. Get medical attention.
<b>Additional Information</b>	Note to physician: Treat symptomatically.

<b>5</b>	<b>Fire Fighting Measures</b>
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<b>Flash Point</b>	Not applicable.
<b>Extinguishing Media</b>	Water spray, dry chemical, foam. CO2 may be ineffective on large fires.
<b>Firefighting Procedures</b>	Recommend wearing self-contained breathing apparatus. Water may cause splattering.
<b>Unusual Fire &amp; Explosion</b>	Solid does not readily release flammable vapors. Thermoplastic polymers can burn. Protect product from flames; maintain proper clearance when using heat devices, etc. Irritating or toxic substances will be emitted upon burning, combustion or decomposition. Large masses of molten polymer held at elevated temperatures for extended periods of time may auto-ignite. See section 10 for addition info.

<b>6</b>	<b>Accidental Release Measures</b>
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<b>Spill Procedures</b>	Pick up free solid for recycle and/or disposal.
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7	Handling and Storage
<b>Pumping Temperature</b>	Not applicable.
<b>Max Handling Temps</b>	Not determined.
<b>Handling Procedures</b>	<p>Loading and unloading operations may cause nuisance dust to form. Refer to Processing Guide and/or contact your local Technical Service representative for melt processing temperature range. For most thermoplastic polyurethanes, melt processing is in the range of 177-232 deg. C (350-450 deg. F), however some products may process at different temperatures. Heating above 232 deg. C (450 deg. F) can generate hazardous decomposition products (see Section 10). Conduct any operations emitting fumes or vapors (including thermo-forming, heat joining, cutting and or sealing of articles and clean up) under well-ventilated conditions. Avoid breathing process vapors. Do not hold product for extended periods of time at elevated temperatures or allow thick masses of hot polymer to accumulate because they can decompose emitting hazardous gasses. Do not taste, swallow, or chew products. Wash thoroughly after processing. Do not store or consume food in processing areas. Fume condensates may include hazardous contaminants from additives. Condensate may be combustible and should be periodically removed from exhaust hoods or "fines." Powders, dust, and/or fines may pose a dust explosion hazard. Do not steam sterilize articles made with Estane TPU resins. Methylene dianiline can be formed under these conditions. Electrostatic buildup may occur when pouring or transferring this product from its container. The spark produced may be sufficient to ignite vapors of flammable liquids. Always transfer product by means which avoid static buildup. Avoid pouring product directly from its container into combustible or flammable solvent. The major off-gasses from normal melt processing are expected to be water vapor and carbon dioxide. Other trace volatile organic components may also be emitted. Wash thoroughly after handling. Launder contaminated clothing before reuse. Dispose of packaging or containers in accordance with local, regional, nation and international regulations.</p>
<b>Max Storage Temps</b>	Not determined.
<b>Storage Procedures</b>	Use good housekeeping measures to prevent dust accumulations. Store in well ventilated place. Store in a cool, dry, well-ventilated area. Keep container tightly closed.

8	Exposure Controls/Personal Protection
<b>Exposure Limits</b>	None established.
<b>Other Exposure Limits</b>	None known.
<b>Engineering Controls</b>	Use with adequate ventilation.
<b>Gloves Procedures</b>	Use good industrial hygiene practices to avoid skin contact. If contact with the material may occur wear chemically protective gloves.
<b>Eye Protection</b>	Safety Glasses.
<b>Respiratory Protection</b>	Under normal use conditions, respirator is not usually required. Use appropriate NIOSH/MSHA respiratory protection if the recommended exposure limit is exceeded, or if exposure to vapors is likely. Cutting operations may create small particles from this product. If inhalation of particulates cannot be avoided, wear a dust respirator. Consult with an industrial hygienist to determine the appropriate respirator protection for your specific use of this material. A respiratory protection program compliant with all applicable regulations must be followed whenever workplace conditions require the use of a respirator.
<b>Clothing Recommendation</b>	Long sleeve shirt is recommended.

9	Physical and Chemical Properties
<b>Flash Point</b>	Not applicable.
<b>Upper Flammable Limit</b>	Not determined.
<b>Lower Flammable Limit</b>	Not determined.
<b>Autoignition Point</b>	Not determined.
<b>Explosion Data</b>	Material does not have explosive properties
<b>Vapor Pressure</b>	Not determined.

pH	Not determined.
Specific Gravity	1.05 (20 deg C)
Bulk Density	Not determined.
Water Solubility	Insoluble.
Percent Solid	Not determined.
Percent Volatile	Not determined.
Volatile Organic Comp	Not determined.
Vapor Density	Not determined.
Evaporation Rate	Not determined.
Odor	Slight
Appearance	Colorless to pale yellow pellets
Viscosity	Not determined.
Odor Threshold	Not determined.
Boiling Point	Not determined.
Pour Point Temperature	Not determined.
Melting/Freezing Point	Not determined.

<b>10</b>	<b>Stability and Reactivity</b>
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<b>Stability</b>	Material is normally stable at moderately elevated temperatures and pressures.
<b>Decomposition Temps</b>	Not determined.
<b>Incompatibility</b>	None known, avoid contact with reactive chemicals
<b>Polymerization</b>	Will not occur
<b>Thermal Decomposition</b>	Smoke, carbon monoxide, carbon dioxide, aldehydes and other products of incomplete combustion. Under combustion conditions, oxides of the following elements will be formed: barium, sulfur. May also include isocyanates and small amounts of hydrogen cyanide.
<b>Conditions to Avoid</b>	Not determined.

<b>11</b>	<b>Toxicological Information</b>
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**\*ACUTE EXPOSURE\***

<b>Eye Irritation</b>	Not expected to cause eye irritation. Based on data from components or similar materials. Particulates may cause mechanical irritation. At processing or combustion temperatures this product may emit fumes and vapors that cause irritation, possibly severe, to the eyes.
<b>Skin Irritation</b>	Not expected to be a primary skin irritant. Based on data from components or similar materials. Prolonged or repeated skin contact as from clothing wet with material may cause dermatitis. Symptoms may include redness, edema, drying, and cracking of the skin.
<b>Respiratory Irritation</b>	Not expected to cause nose, throat and lung irritation. Based on data from components or similar materials. Prolonged or repeated skin contact as from clothing wet with material may cause dermatitis. Symptoms may include redness, edema, drying, and cracking of the skin.
<b>Dermal Toxicity</b>	Insufficient data on components and similar materials to estimate acute dermal LD50 value.
<b>Inhalation Toxicity</b>	Overexposure to vapors or mist may cause dizziness, headache, nausea, and/or flu-like symptoms. Avoid inhalation of mists or vapors.
<b>Oral Toxicity</b>	Insufficient data on components and similar materials to estimate acute oral LD50 value.
<b>Dermal Sensitization</b>	No data available to indicate product or components may be a skin sensitizer.
<b>Inhalation Sensitization</b>	No data available to indicate product or components may be respiratory sensitizers.

**\*CHRONIC EXPOSURE\***

<b>Chronic Toxicity</b>	Prolonged inhalation of high levels of barium sulfate dust may cause lung damage resulting in a benign pneumoconiosis.
<b>Carcinogenicity</b>	No data available to indicate any components present at greater than 0.1% may present a carcinogenic hazard.
<b>Mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or

genotoxic.

**Reproductive Toxicity** No data available to indicate either product or components present at greater than 0.1% that may cause reproductive toxicity.

**Teratogenicity** No data available to indicate product or any components contained at greater than 0.1% may cause birth defects.

**\*ADDITIONAL INFORMATION\***

**Other** Under decomposition conditions, isocyanates may be generated from this product. Isocyanates can cause skin sensitization and/or respiratory sensitization. Pre-existing skin conditions may be aggravated by prolonged or repeated exposure. Persons with sensitive airways (e.g., asthmatics) may react to vapors.

<b>12</b>	<b>Ecological Information</b>
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**\*ENVIRONMENTAL TOXICITY\***

**Freshwater Fish Toxicity** Not determined.

**Fresh Water Invertebrate**

**Toxicity** Not determined.

**Algal Inhibition** Not determined.

**Saltwater Fish Toxicity** Not determined.

**Saltwater Invertebrates**

**Toxicity** Not determined

**Bacteria Toxicity** Not determined

**Miscellaneous Toxicity** Not determined

**\*ENVIRONMENTAL FATE\***

**Biodegradation** Adequate data is not available to estimate the biodegradation potential of this material.

**Bioaccumulation** There is no data available to evaluate this material for bioconcentration.

**Soil Mobility** Not determined.

<b>13</b>	<b>Regulatory Information</b>
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**USA** All components of this material are on the US TSCA Inventory or are exempt.

**Other TSCA Reg.** None known.

**EU** All components are in compliance with the EC Seventh amendment Directive 92/32/EEC.

**Japan** All components are in compliance with the Chemical Substances Control Law of Japan

**Australia** All components are in compliance with chemical notification requirements in Australia

**New Zealand** All components are in compliance with chemical notification requirements in New Zealand

**Canada** This material contains one or more components that are on the Non-Domestic Substances list (NDSL).

This material or products containing this material may be exported to Canada in limited quantities.

**Switzerland** All components are in compliance with the Environmentally Hazardous Substances Ordinance in Switzerland

**Korea** All components are in compliance in Korea

**Philippines** All components are in compliance with the Philippines Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990 (R.A. 6969).

**China** All components of this product are listed on the Inventory of Existing Chemical Substances in China

**Taiwan** All components of this product are listed on the Taiwan inventory.

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