Material Safety Data Sheet

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Section 1. Material / Company Identification

PRODUCT NAME **KRATON Polymers SBS D Series Products:**
Note: This MSDS covers all alphanumeric suffixes for the following products.Suffixes designate location of manufacture, lube type, product form and/or new Commercial grade:

D1101, D1102, D1116, D1118, D1120, D1122, D1133, D1134, D1144, D1151, D1152, D1153, D1155, D1184, D1186, D1190, D1192, DX1000

CHEMICAL NAME Styrene-Butadiene-Styrene Block Copolymer
PRODUCT FAMILY Thermoplastic Elastomer

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Kraton Polymers, US, LLC
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Section 2. Composition

COMPONENTS	CAS#
1. Styrene-Butadiene-Styrene Block Copolymer	9003-55-8
2. Antioxidant/Stabilizer/may contain Dusting Agent	

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Section 3. Hazards Identification

Human Health Hazards
Molten product adheres to the skin and causes burns.

Safety Hazards
Electrostatic charges may be generated during handling. Risk of self-ignition of bulk product above certain temperature (Refer to Section 10). Specifically for powder grades and accumulated polymer dust: dust explosion could occur.

Environmental Hazards
No specific Hazards

Other Hazards
Not classified as dangerous for supply or conveyance.

Special Notes
These materials are rubber compounds, which are essentially non-toxic. Material is not irritating. If polymer dusts are generated, they could scratch the eyes and cause minor irritation to the respiratory tract.

Section 4. First Aid Measures

Symptoms and Effects
Not expected to give rise to an acute hazard under normal conditions of use.

Inhalation
Remove to fresh air. If rapid recovery does not occur, obtain medical attention.

Skin
If contact with hot material, cool the burn area by flushing with large amounts of water. DO NOT attempt to remove anything from the burn area or apply burn creams or ointments. Cover the burn area loosely with a sterile dressing, if available and seek medical attention.

Eye
Flush eye with water. Seek medical attention if necessary.

Ingestion
No specific measures.

Advice to physicians
Treat Symptomatically

Section 5. Fire Fighting Measures

Specific Hazards
Not classified as flammable but will burn. Hazardous combustion products may include carbon monoxide, carbon dioxide.

Extinguishing Media
Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

Unsuitable Extinguishing Media
Water in a jet may disperse fire.

Protective Equipment
Full protective clothing and self contained breathing apparatus.

Section 6. Accidental Release Measures

Personal Precautions
Avoid raising a dust cloud

Environmental Precautions
No Specific Measures.

Clean-Up Methods - Small Spillage
Shovel up and place in a labeled, sealable container for subsequent safe disposal as required by local, state, federal, international or country specific regulations.

Clean-Up Methods - Large Spillage
Transfer to a labeled, sealable container for product recovery or safe disposal as required by local, state, federal, international or country specific regulations.

Protective Measures
Wear appropriate personal protective equipment (refer to Section 8) when responding to spills.

Spill Management
Shovel and sweep up or use industrial vacuum cleaner. Proper disposal should be evaluated based on regulatory status of this material (refer to Section 13), potential contamination from subsequent use and spillage, and regulations governing disposal in the local area. Prevent entry into waterways, sewer, or confined areas.

Section 7. Handling and Storage

Handling
Avoid generation or accumulation of dusts. Take precautionary measures against static discharges, earth/ground all equipment. Avoid contact with heated or molten product. Do not breathe dust. Do not breathe fumes or vapors from heated product. Use local exhaust extraction over processing area.

When processing KRATON Polymers products, maintain a fire watch if the material reaches 225 deg. C (437 deg. F) for KRATON IR and KRATON D (polymers and compounds) and 280 deg. C (536 deg. F) for KRATON G (polymers and compounds).

The temperatures listed above are indicated only for safety reasons (risk of fire and product degradation) and are not necessarily recommended for processing.

Degradation of the polymer (polymer breakdown) will start at lower temperatures depending on the specific processing conditions. Therefore, operating below these temperatures does not guarantee the absence of product degradation.

For more information about processing precautions, consult the KRATON Polymers technical literature available from your sales representative.

Static charge buildup can be a potential fire hazard when used in the presence of volatile or flammable vapors or in high airborne dust concentrations. For more information, consult the KRATON Polymers Static Electricity Safety Bulletin available from your sales representative.

Storage
Keep container dry. Keep in a cool, well-ventilated place. Keep away from direct sunlight and other sources of heat or ignition. Avoid storage of bulk product at temperatures above ambient to minimize risk of exothermic degradation, self-heating and possible self-ignition (Refer to Section 10). Avoid storage under pressure or at elevated temperatures to minimize particulate clustering. Do not stack Flexible Intermediate Bulk Containers (FIBCs) nor palletized bags.

Storage Temperatures
Ambient

Product Transfer
Take precautionary measures against static discharge. Earth/Ground all equipment.

Other Information
KRATON Polymer has a tendency to accumulate static charge during transport, handling and processing. Reducing the velocity of transport will reduce charging. Static charge buildup can be a potential fire hazard when used in the presence of volatile or flammable mixtures. For more information, consult the KRATON Polymers Static Electricity Safety Bulletin available from your sales representative.

Section 8. Exposure Controls / Personal Protection

Occupational Exposure
None established. In the absence of occupational exposure standards for this product, it is recommended that the following be adopted:

RUBBER FUME
TLV (EH40)
RUBBER MANUFACTURING AND PROCESSING GIVING RISE TO RUBBER DUST AND RUBBER FUME
Rubber Fume:
MEL/TWA (8h) = 0.6 mg/m3
Rubber Process Dust:
MEL/TWA (8h) = 6 mg/m3

MEL = Maximum Exposure Limit

DUST, RESPIRABLE DUST
TLV (EH40)
Total Inhalable Dust
TWA (8 h) = 10 mg/m3
Respirable Dust
TWA (8 h) = 4 mg/m3

Engineering Control Measures

Use local exhaust ventilation.

Respiratory Protection
Where local exhaust ventilation is not practicable and odors are detected use a negative pressure half face respirator equipped with a cartridge designed to protect against organic vapors and if dust is also present a particulate pre-filter should also be used. For high airborne dust concentrations use a cartridge designed to be used against nuisance dust.

Hand Protection
Cloth gloves if desired.

Eye Protection
Dust-tight mono goggles.

Body Protection
Standard issue work clothes which may include apron, safety shoes or boots as necessary.

Section 9. Physical and Chemical Properties

Physical State: Crumb ou Pellets
Color: Clear to White
Odor: Essentially odorless
Flash Point: Not applicable
Density: Typical between 880-950 kg/m3 at 20C
Specific Gravity: <1
Bulk density (for solids): Typical 300-400 kg/m3 at 20 Deg. C (ASTM D-1895)
Solubility (In Water): Insoluble
N-octanol/water partition coefficient (log Pow): Not applicable

Section 10. Reactivity and Stability

Stability
Stable under ambient conditions. Oxidizes exothermically above ambient temperature.

Conditions to Avoid
Avoid contact with strong oxidizing agents. Accumulation of product in areas exposed to elevated temperatures for extended periods in air may result in self-heating and auto ignition. Avoid elevated temperatures in storage for prolonged periods of time (example: 5 days at 200 Degrees F or 93 Degrees C).

Hazardous Decomposition Products
Hazardous vapors from heated products are not expected to be generated under normal processing temperatures and conditions. Although highly dependent on temperature and environmental conditions, a variety of thermal decomposition products may be present if the product is over heated, is smoldering or catches fire. These range from simply hydrocarbons (such as methane and propane) to toxic/irritating vapors (such as carbon monoxide and dioxide, acrolein, aldehydes and ketones). (Refer to Handling in Section 7).

Section 11. Toxicological Information

Basis for Assessment
Toxicological data have not been determined specifically for this product. Information given is based on a knowledge of the toxicology of similar products.

Acute Toxicity Oral
Expected to be of low toxicity, LD50 > 2000 mg/kg

Acute Toxicity Dermal
Expected to be of low toxicity, LD50 > 2000 mg/kg

Acute Toxicity Inhalation
Data not available.

Skin Irritation
Not expected to be irritating.

Eye Irritation
Not expected to be irritating.

Skin Sensitization
Not expected to be a skin sensitizer.

Repeated Dose Toxicity
Repeated exposure does not cause significant toxic effects.

Mutagenicity
Not considered to be a mutagenic hazard.

This product does not contain any carcinogens as listed by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Governmental Industrial Hygienists (ACGIH).

Section 12. Ecological Information

Basis for assessment
Ecotoxicological data have not been determined specifically for this product. The information given below is based on a knowledge of the components and the ecotoxicology of similar products.

Mobility
Floats on water. Remains on surface of soil.

Persistence/Degradability
Expected to be not inherently biodegradable. Persists under anaerobic conditions.

Bioaccumulation
Not expected to bioaccumulate.

Acute Toxicity (Fish, Invertabrates, Algae, Bacteria) and Sewage treatment
Expected to be practically non toxic, LC/EC/IC 50 > 1000 mg/l

Other Information
KRATON Polymers products (the neat resin or the base product) are high molecular weight polymers which by all accounts are non-toxic and biologically inactive.

Section 13. Disposal Considerations

Waste Disposal
Recover or Recycle if possible, otherwise Incineration, otherwise Licensed Landfill.

Product Disposal
Same as for waste disposal.

Container Disposal
Remove all packaging for recover or waste disposal.

Local Legislation
The recommendations given are considered appropriate for safe disposal. However, local, state, federal, international, or country specific regulations take precedents. They may vary, and they may be more stringent but they must be strictly enforced and complied with.

If this material becomes a waste and has not been chemically altered, it is not considered a hazardous waste as defined by RCRA (40CFR 261).

Section 14. Transport Information

US Department of Transportation Classification

This material is not subject to DOT regulations under 49 CFR Parts 171-180.

International Air Transportation Association Classification
This material is not classified as hazardous under IATA regulations.

International Maritime Organization - IMDG
This material is not classified as hazardous under IMDG regulations.

UN, IMO, ADR/RID, ICAO Code
This material is not dangerous for conveyance under these codes.

Section 15. Regulatory Information

The regulatory information provided is not intended to be comprehensive. Other local, state, federal, international or country specific regulations may apply to this material.

EUROPE - EC Classification
Not classified as dangerous under EC criteria.

US legislation:
US Federal - Superfund Amendment & Reauthorization Act (SARA) Title III:
This material is not regulated under SARA Title III.
US Federal - Toxic Substances Control Act (TSCA) Inventory Status:
This product is listed on the EPA TSCA Inventory of Chemical Substances with the Accession number 88961, which is identified by the CAS number in Section 2.
US State - California Safe Drinking Water
This material is not regulated by the California Safe Drinking Water Act.
US State -Toxic Enforcement Act (Proposition 65):
This material is not regulated by the Toxic Enforcement Act (Proposition 65).
US State - New Jersey Right-To-Know List:
This material is not regulated by the New Jersey Right-To-Know Act.
US State - Pennsylvania Right-To-Know List:
This material is not regulated by Pennsylvania Right-To-Know Act.

International legislation

Canada - Workplace Hazardous Materials Information System (WHMIS):
"This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required." This is NOT a WHMIS controlled product.

Section 16. Other Information

Revision #24
Revision Date: 11/17/2006
Revisions since last change:
Added a new grade to Section 1 in August 2006.

This document should be made available to all who may handle the product.

Medical, Healthcare and Cosmetic Applications and Trademark Usage
KRATON Polymers' products should not be used in any devices or materials intended for implantation in the human body as defined by the U.S. Food and Drug Administration under 21 CFR 812.3(d) and 21 CFR 860.3(d). KRATON Polymers' products may, in certain circumstances, be used in the following products or applications with prior written approval for each specific product or application: a. Cosmetics (exclusive of packaging or delivery applications). b. Drugs and other Pharmaceuticals (exclusive of packaging or delivery applications). KRATON Polymers' trade names, trademarks, logos or other similar identifying characteristics should not be used in the manufacture, sale, or promotion of cosmetics, drugs, and pharmaceutical products or other medical/healthcare applications or materials. KRATON Polymers has no specific expertise in these markets and applications, and does not intend to perform testing, clinical studies or other investigations of the suitability of its products for specific applications. Each customer or user of KRATON Polymers' products is solely responsible for determining the suitability of the materials it selects for the intended purpose and acknowledges that it has not relied on any representations of KRATON Polymers regarding suitability for use in its intended cosmetics, drugs, pharmaceutical products or materials. Please contact your KRATON Polymers Sales Representative for more details before using our products in these specific applications.

Information on the food packaging clearances of individual products is available from KRATON Polymers.

Other information

Disclaimer
The information in this document is based on our current knowledge and is intended to describe the product for the purposes of Health, Safety and Environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product. Advice in this document relates only to the product as originally supplied. Where other ingredients are added in the processing of this product, advice should be sought on their safe handling and use.