



**Leading by Listening**

# Material Safety Data Sheet

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<b>SECTION 1</b>	<b>MATERIAL/COMPANY IDENTIFICATION</b>
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**PRODUCT NAME:** KRATON Polymers Styrene-Isoprene-Styrene D Series Products:  
 (Note: Includes all Physical Forms of the following products):  
**D1107, D1111, D1112, D1113, D1114, D1117, D1119, D1124, D1126, D1160, D1161, D1162, D1163, D1165, D1193, D1194, D1320.**

**CHEMICAL NAME:** Styrene-Isoprene-Styrene Block Copolymer  
**PRODUCT FAMILY:** Thermoplastic Elastomer

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<b>SECTION 2</b>	<b>COMPOSITION</b>
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<b>COMPONENTS</b>	<b>CAS#</b>
1. Styrene-Isoprene-Styrene Block Copolymer	25038-32-8
2. Antioxidant/Stabilizer/Dusting Agent	

Refer to the KRATON Polymers Data Document for more information on a specific product.

<b>SECTION 3</b>	<b>HAZARDS IDENTIFICATION</b>
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**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:**

## KRATON Polymers SIS D Series Products

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. Compounding of product in high shear equipment can cause temperature to rise excessively if suitable cooling facilities are not available. In Processing: Do not allow the temperature to exceed 230 deg. C (450 deg. F). A firewatch is recommended if temperature exceeds 230 deg. C (450 deg. F).

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 intermediate bulk containers.

#### 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 material transfer will reduce the likelihood that charge will be created. 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.

### 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:

#### DUST, RESPIRABLE DUST

##### TLV (EH40)

Total Inhalable Dust: TWA (8 h) 10 mg/m<sup>3</sup>

Respirable Dust: TWA (8 h) = 4 mg/m<sup>3</sup>

#### RUBBER FUME

##### TLV (EH40)

#### RUBBER MANUFACTURING AND PROCESSING GIVING RISE TO RUBBER DUST AND RUBBER FUME

Rubber Fume: MEL/TWA (8 h) = 0.6 mg/m<sup>3</sup>

Rubber Process Dust: MEL/TWA (8 h) = 6 mg/m<sup>3</sup>

MEL = Maximum Exposure Limit

**Engineering Control Measures:** Use local exhaust ventilation.

## KRATON Polymers SIS D Series Products

### 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:** Solid

**Color:** Clear or White (depending on if it is a dense or porous pellet)

**Odor:** Essentially odorless

**Flash Point:** Not applicable

**Density:** Typical between 880-95 kg/m<sup>3</sup> at 20C

**Specific Gravity:** <1

**Bulk density (for solids):** Typical 300-400 kg/m<sup>3</sup> 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 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 carbon 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, LD<sub>50</sub> > 2000 mg/kg

### Acute Toxicity Dermal:

## KRATON Polymers SIS D Series Products

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 sensitiser

### Repeated Dose Toxicity:

Repeated exposure does not cause significant toxic effects.

### Mutagenicity:

Not considered to be a mutagenic hazard

## 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:

Expected to be practically non toxic, LC/EC/IC 50 > 1000 mg/l

### Acute Toxicity - Invertebrates:

Expected to be practically non toxic, LC/EC/IC 50 > 1000 mg/l

### Acute Toxicity - Algae:

Expected to be practically non toxic, LC/EC/IC 50 > 1000 mg/l

### Acute Toxicity - Bacteria:

Expected to be practically non toxic, LC/EC/IC 50 > 1000 mg/l

### 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 compiled 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 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:**

Component(s) of this material is (are) listed on the EPA TSCA Inventory of Chemical Substances.

**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.

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### US State - Pennsylvania Right-To-Know List:

This material is not regulated by Pennsylvania Right-To-Know Act

#### SECTION 16

#### OTHER INFORMATION

**Revision #: 04**

**Revision Date: November 4, 2002**

**Revisions since last change (discussion):** Changes made to Sections 1 and 16.

This Material Safety Data Sheet replaces an accumulation of various product specific Material Safety Data Sheets.

**Uses and Restrictions:**

KRATON™ Polymers are high performance thermoplastic elastomers engineered for a wide spectrum of end uses. Each customer or user of KRATON Polymers products is solely responsible for determining the suitability of the materials they select for the intended purpose.

**Material Safety Data Sheet Distribution:**

The information in this document should be made available to all who may handle the product.

**Other Information:**

KRATON is a KRATON™ trademark.

**Disclaimer:**

This information 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 handling and use.