SAFETY DATA SHEET

1. Identification

Identification

Product name: **ESTANE® 58315 NAT 035**

Additional identification

Chemical name: Polyurethane polymer

Recommended use and restriction on use

Recommended use: Polyether Aromatic
Restrictions on use: None identified.

Details of the supplier of the safety data sheet

Supplier

Company Name: THE LUBRIZOL CORPORATION
Address: 9921 BRECKSVILLE RD
BRECKSVILLE, OH 44141
US
Telephone: 216-447-5000

Emergency telephone number:
FOR TRANSPORT EMERGENCY CALL CHEMTREC (+1)703 527 3887, OR WITHIN USA 800 424 9300

2. Hazard(s) identification

Hazard Classification

Not classified

Label Elements:

Hazard Symbol: No symbol

Signal Word: No signal word.

Hazard Statement: not applicable

Precautionary Statements: not applicable

Other hazards which do not result in GHS classification: None identified.

3. Composition/information on ingredients

General information: The components are not hazardous or are below required disclosure limits.

4. First-aid measures

Ingestion:	No specific first aid measures noted.
Inhalation:	Remove exposed person to fresh air if adverse effects are observed.
Skin Contact:	Wash with soap and water. If skin irritation occurs, get medical attention. 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.
Eye contact:	Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. If hot melted material should splash into the eyes, flush eyes immediately with water for 15 minutes while holding the eyelids open. Immediately call a poison center or doctor.
Personal Protection for First-aid Responders:	When providing first aid always protect yourself against exposure to chemicals or blood born diseases by wearing gloves, masks and eye protection. After providing first aid wash your exposed skin with soap and water.

Most important symptoms/effects, acute and delayed

Symptoms:	See section 11.

Indication of immediate medical attention and special treatment needed

Treatment:	Treat symptomatically.

5. Fire-fighting measures

General Fire Hazards:	No unusual fire or explosion hazards noted.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media:	Use water spray, dry chemical or foam for extinction. CO2 may be ineffective on large fires.
Unsuitable extinguishing media:	Not determined.
Specific hazards arising from the chemical:	See section 10 for additional information.

Special protective equipment and precautions for firefighters

Special fire fighting procedures:	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.
Special protective equipment for fire-fighters:	Recommend wearing self-contained breathing apparatus.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: No data available.

Methods and material for containment and cleaning up: Pick up free solid for recycle and/or disposal.

Environmental Precautions: Avoid release to the environment. Do not contaminate water sources or sewer. Environmental manager must be informed of all major spillages. Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Precautions for safe handling: Contact with heated material may cause thermal burns. Wash thoroughly after handling.

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 the maximum handling temperature can generate hazardous decomposition products (see Section 10). Review the temperature data in the “Maximum Handling Temperature” included in this section for processing temperature not to be exceeded.

Fume condensates may include hazardous contaminants from additives. Condensate may be combustible and should be periodically removed from exhaust hoods, ductwork, and other surfaces. Impervious gloves should be worn during cleanup operations to prevent skin contact.

Post thermal processing activities necessary to produce molded articles (such as cutting, sanding, sawing, grinding, drilling, or regrinding) may create dust or "fines." Powders, dust, and/or fines may pose a dust explosion hazard. Avoid breathing dust.

Loading and unloading operations may cause nuisance dust to form. 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.

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. 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.

	Do not steam sterilize articles made with thermoplastic polyurethanes. Methylene dianiline can be generated as a result. Observe good industrial hygiene practices. Provide adequate ventilation. Wear appropriate personal protective equipment.
Maximum Handling Temperature:	232 °C 450 °F
Conditions for safe storage, including any incompatibilities:	Store away from incompatible materials. See section 10 for incompatible materials. Store in dry, well ventilated place away from sources of heat and direct sunlight.
Maximum Storage Temperature:	Not determined.

8. Exposure controls/personal protection

Control Parameters:

Occupational Exposure Limits

None of the components have assigned exposure limits.

Appropriate engineering controls:	Thermal processing operations should be ventilated to control gases and fumes given off during processing.

Individual protection measures, such as personal protective equipment

General information:	Use personal protective equipment as required.
Eye/face protection:	If contact is likely, safety glasses with side shields are recommended.
Skin Protection	
Hand Protection:	To avoid burns from contact with molten product, use thermal insulating gloves. Suitable gloves can be recommended by the glove supplier.
Other:	Long sleeve shirt is recommended.
Respiratory Protection:	Consult with an industrial hygienist to determine the appropriate respiratory 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. Under normal use conditions, respirator is not usually required. Use appropriate respiratory protection if exposure to dust particles, mist or vapors is likely. Cutting operations may create small particles from this product. If inhalation of particles cannot be avoided, wear a dust respirator.
Hygiene measures:	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.

9. Physical and chemical properties

Appearance	
Physical state:	solid
Form:	Pellets
Color:	Natural
Odor:	Faint
Odor threshold:	No data available.
pH:	No data available.
Melting Point:	No data available.
Boiling Point:	No data available.
Flash Point:	Not applicable.
Evaporation rate:	No data available.
Flammability (solid, gas):	No data available.
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	No data available.
Relative density:	1 - 1.1 68 °F (20 °C)
Solubility(ies)	
Solubility in water:	Insoluble in water
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	Will not occur.
Conditions to avoid:	Not determined.
Incompatible Materials:	None known, avoid contact with reactive chemicals.
Hazardous Decomposition Products:	May also include isocyanates and small amounts of hydrogen cyanide. Thermal decomposition or combustion may generate smoke, carbon monoxide, carbon dioxide, and other products of incomplete combustion.

11. Toxicological information

Information on likely routes of exposure

Inhalation: No data available.

Ingestion: No data available.

Skin Contact: No data available.

Eye contact: No data available.

Information on toxicological effects

Acute toxicity

Oral

Product**:** May cause irritation of the gastrointestinal tract.
Not classified for acute toxicity based on available data.

Dermal

Product**:** Not classified for acute toxicity based on available data.

Inhalation

Product**:** Overexposure to vapors or mist may cause dizziness, headache, nausea, and/or flu-like symptoms. Persons with sensitive airways (e.g., asthmatics) may react to vapors.
Not classified for acute toxicity based on available data.

Skin Corrosion/Irritation:

Product**:** Pre-existing skin conditions may be aggravated by prolonged or repeated exposure. Contact with heated polymer may cause thermal burns and adhesion of solidified product to the skin.
Remarks: Not classified as a primary skin irritant.

Serious Eye Damage/Eye Irritation:

Product**:** Remarks: Not classified as a primary eye irritant.

Respiratory sensitization:

Product**:** Remarks: Under decomposition conditions, isocyanates may be generated from this product. Isocyanates can cause skin sensitization and/or respiratory sensitization.

Skin sensitization:

Product**:** Remarks: Under decomposition conditions, isocyanates may be generated from this product. Isocyanates can cause skin sensitization and/or respiratory sensitization.

Specific Target Organ Toxicity - Single Exposure:

No data available

Aspiration Hazard:

No data available

Other effects:

Polyurethane polymer	Under decomposition conditions, isocyanates may be generated from this product. Isocyanates can cause skin sensitization and/or respiratory sensitization. Persons with sensitive airways (e.g., asthmatics) may react to vapors.

Chronic Effects

Carcinogenicity:

No data available

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ Cell Mutagenicity:

No data available

Reproductive toxicity:

No data available

Specific Target Organ Toxicity - Repeated Exposure:

No data available

12. Ecological information

Ecotoxicity

Fish

No data available

Aquatic Invertebrates

No data available

Toxicity to Aquatic Plants

No data available

Toxicity to soil dwelling organisms

No data available

Sediment Toxicity

No data available

Toxicity to Terrestrial Plants

No data available

Toxicity to Above-Ground Organisms

No data available

Toxicity to microorganisms

No data available

Persistence and Degradability

Biodegradation

No data available

Bioaccumulative Potential

Bioconcentration Factor (BCF)

No data available

Partition Coefficient n-octanol / water (log Kow)

No data available

Mobility:

No data available

Other Adverse Effects: No data available.

13. Disposal considerations

Disposal instructions: Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations.
Since emptied containers retain product residue, follow label warnings even after container is emptied.

Contaminated Packaging: Container packaging may exhibit hazards.

14. Transport information

DOT

Not regulated.

IMDG

Not regulated.

IATA

Not regulated.

Transport in bulk according to Annex II of MARPOL and the IBC Code

None known.

The DOT shipping information in this section is based on a bulk container. Please review the accompanying shipping papers for the correct shipping descriptions based the size of the package. Shipping descriptions may vary based on mode of transport, quantities, temperature of the material, package size, and/or origin and destination. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material. During transportation, steps must be taken to prevent load shifting or materials falling, and all relating legal statutes should be obeyed. Review classification requirements before shipping materials at elevated temperatures.

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4)
None present or none present in regulated quantities.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 311 Classifications
Not classified

SARA 302 Extremely Hazardous Substance
None present or none present in regulated quantities.

SARA 304 Emergency Release Notification
None present or none present in regulated quantities.

SARA 313 (TRI Reporting)
None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65
This product may contain chemical(s) known to the state of California to cause cancer and/or birth defects. Additional information can be received upon request.

Inventory Status

Australia (AICS)
All components are in compliance with chemical notification requirements in Australia.

Canada (DSL/NDSL)
All substances contained in this product are in compliance with the Canadian Environmental Protection Act and are present on the Domestic Substances List (DSL) or are exempt.

China (IECSC)
All components of this product are listed on the Inventory of Existing Chemical Substances in China.

European Union (REACh)
To obtain information on the REACH compliance status of this product, please e-mail REACH@SDSInquiries.com.

Japan (ENCS)
All components are in compliance with the Chemical Substances Control Law of Japan.

Korea (ECL)
All components are in compliance in Korea.

New Zealand (NZIoC)
All components are in compliance with chemical notification requirements in New Zealand.

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

Switzerland (SWISS)
All components are in compliance with the Environmentally Hazardous Substances Ordinance in Switzerland.

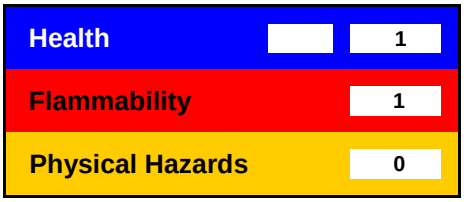
Taiwan (TCSCA)
All components of this product are listed on the Taiwan inventory.

United States (TSCA)
All substances contained in this product are listed on the TSCA inventory or are exempt.

The information that was used to confirm the compliance status of this product may deviate from the chemical information shown in Section 3.

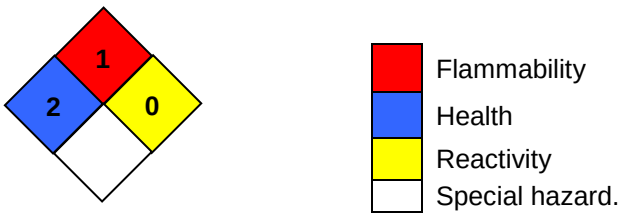
16.Other information, including date of preparation or last revision

HMIS Hazard ID



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible; *Chronic health effect

NFPA Hazard ID



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible

Issue Date:	02/20/2018
Version #:	3.0
Source of information:	Internal company data and other publically available resources.
Further Information:	Contact supplier (see Section 1)
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