SAFETY DATA SHEET

SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

As of the revision date above, this SDS meets the regulations in the United Kingdom & Ireland.

1.1. PRODUCT IDENTIFIER

Product Name: **GEOLAST™ THERMOPLASTIC VULCANIZATE**
Product Description: Elastomer, see Section 16 for applicable grades.

1.2. RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Intended Use: Automotive Application, Miscellaneous industrial applications

Uses advised against: This product is not recommended for any industrial, professional or consumer use other than the Identified Uses above.

1.3. DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Supplier:
ExxonMobil Petroleum & Chemical BVBA
Polderdijkweg
B-2030 Antwerpen
Belgium
Phone: +32 3 790 31 11

Local Contact:
ExxonMobil Chemical Ltd.
MAILPOINT 14
MARSH LANE
FAWLEY, SOUTHAMPTON
SO45 1TX HAMPSHIRE
Great Britain

Supplier General Contact: (UK) (+44) (0) 23 8089 3822
E-Mail: sds.uk@exxonmobil.com

1.4. EMERGENCY TELEPHONE NUMBER

24 Hour Emergency Telephone: +(44)-8708200418 (CHEMTREC)
National Poison Control Centre: (UK) 111 / (IE) (+353)1 809 2166

SECTION 2 HAZARDS IDENTIFICATION

2.1. CLASSIFICATION OF SUBSTANCE OR MIXTURE

Classification according to Regulation (EC) No 1272/2008
Skin Sensitizer: Category 1.
Chronic aquatic toxicant: Category 3.
H317: May cause an allergic skin reaction.
H412: Harmful to aquatic life with long lasting effects.

2.2. LABEL ELEMENTS

Label elements according to Regulation (EC) No 1272/2008

Pictograms:

Signal Word: Warning

Hazard Statements:

H317: May cause an allergic skin reaction.
H412: Harmful to aquatic life with long lasting effects.

Precautionary Statements:

P261: Avoid breathing dust. P272: Contaminated work clothing should not be allowed out of the workplace. P273: Avoid release to the environment. P280: Wear protective gloves.
P302 + P352: IF ON SKIN: Wash with plenty of soap and water. P333 + P313: If skin irritation or rash occurs: Get medical advice/attention. P362 + P364: Take off contaminated clothing and wash it before reuse.
P501: Dispose of contents and container in accordance with local regulations.

Contains: 2-PROPENENITRILE,POLYMER WITH 1,3-BUTADIENE,1-CYANO-1-METHYL-4-OXO-4-[[2-(1-PIPERAZINYL)ETHYL] AMINO] BUTYL-TERMINATED

2.3. OTHER HAZARDS

Physical / Chemical Hazards:

WARNING: May form combustible dust concentrations in air (during processing/handling). Thermal burn hazard - contact with hot material may cause thermal burns. Spilled pellets present a slipping hazard on hard surfaces.

Health Hazards:

If dust is generated, it could scratch the eyes and cause minor irritation to the respiratory tract. Product may decompose at elevated temperatures or under fire conditions and give off irritating and/or harmful (carbon monoxide) gases/vapours/fumes. Symptoms from acute exposure to these decomposition products in confined spaces may include headache, nausea, eye, nose, and throat irritation.

Environmental Hazards:

No additional hazards. Material does not meet the criteria for PBT or vPvB in accordance with REACH Annex XIII.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

3.1. SUBSTANCES Not Applicable. This material is regulated as a mixture.

3.2. MIXTURES

This material is defined as a mixture.

Reportable hazardous substance(s) complying with the classification criteria and/or with an exposure limit (OEL)

Name	CAS#	EC#	Registration#	Concentration *	GHS/CLP classification
2-ETHYLHEXYL10-ETHYL-4,4-DIOCTYL-7-OXO-8-OXA-3,5-DITHIA-4-STANNATETRADECANOATE	15571-58-1	239-622-4	NE	< 0.15%	Acute Tox. 4 H302, Repr. 1B H360D, Skin Sens. 1 H317, Aquatic Acute 1 H400 (M factor 1), Aquatic Chronic 1 H410 (M factor 1), Skin Irrit. 2 H315, STOT RE 1 H372
2-PROPENENITRILE,POLYMER WITH 1,3-BUTADIENE,1-CYANO-1-METHYL-4-OXO-4-[[2-(1-PIPERAZINYL)ETHYL] AMINO] BUTYL-TERMINATED	68683-29-4		NE	0.9 - 1.1%	Skin Sens. 1 H317
4-(1,1,3,3-TETRAMETHYLBUTYL)PHENOL	140-66-9	205-426-2	NE	<= 0.15%	Aquatic Acute 1 H400 (M factor 1), Aquatic Chronic 1 H410 (M factor 1), Skin Irrit. 2 H315
CARBON BLACK	1333-86-4	215-609-9	NE	<= 1%	OEL
CARBONIC ACID, CALCIUM SALT (1:1)	471-34-1	207-439-9	01-2119486795-18	1.5 - 3.6%	OEL
PARAFFIN WAX	8002-74-2	232-315-6	01-2119488076-30	0.5 - 2%	OEL
TIN DICHLORIDE	7772-99-8	231-868-0	01-2119971277-28	0.3 - 0.45%	Acute Tox. 4 H302, Acute Tox. 4 H332, Met. Corr. 1 H290, Skin Sens. 1 H317, STOT SE 3 H335, Aquatic Acute 1 H400 (M factor 1), Aquatic Chronic 3 H412, Skin Corr. 1B H314, STOT RE 2 H373
Zinc oxide	1314-13-2	215-222-5	01-2119463881-32	3 - 4.5%	Aquatic Acute 1 H400 (M factor 1), Aquatic Chronic 1 H410 (M factor 1)

Note - any classification in brackets is a GHS building block that was not adopted by the EU in the CLP regulation (No 1272/2008) and therefore is not applicable in the EU or in non-EU countries which have implemented the CLP regulation and is shown for informational purposes only.

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

NOTE: The product may contain varying levels of additives such as slip and anti-blocking agents, antioxidants and

stabilisers. The substances in the above table are components of one or more, but not all product grades.

Note: See SDS Section 16 for full text of hazard statements.

SECTION 4 FIRST AID MEASURES

4.1. DESCRIPTION OF FIRST AID MEASURES

INHALATION

In case of adverse exposure to vapours and / or aerosols formed at elevated temperatures, immediately remove the affected victim from exposure. Administer artificial respiration if breathing is stopped. Keep at rest.

SKIN CONTACT

Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse. If burned by contact with hot material, molten material adhering to skin should be cooled as quickly as possible with water, and see a physician for removal of adhering material and treatment of burn.

EYE CONTACT

Flush thoroughly with water for at least 15 minutes. Get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

4.2. MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

Itching and rash from allergic skin reaction.

4.3. INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

The need to have special means for providing specific and immediate medical treatment available in the workplace is not expected.

SECTION 5 FIRE FIGHTING MEASURES

5.1. EXTINGUISHING MEDIA

Suitable Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Unsuitable Extinguishing Media: Straight streams of water

5.2. SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Hazardous Combustion Products: Flammable hydrocarbons, Formaldehyde, Incomplete combustion products, Nitrogen oxides, Oxides of carbon, Smoke, Fume

5.3. ADVICE FOR FIRE FIGHTERS

Fire Fighting Instructions: Assure an extended cooling down period to prevent re-ignition. Material will not burn. Evacuate area. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. Fire-fighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Explosion: Avoid generating dust; fine dust dispersed in air in sufficient concentration and in the presence of an ignition source is a potential dust explosion hazard.

FLAMMABILITY PROPERTIES

Flash Point [Method]: Not technically feasible
Upper/Lower Flammable Limits (Approximate volume % in air): UEL: No data available LEL: No data available
Autoignition Temperature: Not technically feasible

SECTION 6 ACCIDENTAL RELEASE MEASURES

6.1. PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

PROTECTIVE MEASURES

Avoid contact with spilled material. Dust Deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (for example, clearing dust surfaces with compressed air). Prevent dust exposure to ignition sources. For example, use non-sparking tools and prohibit smoking, flares, sparks or flames in immediate area. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

6.2. ENVIRONMENTAL PRECAUTIONS

Prevent entry into waterways, sewers, basements or confined areas.

6.3. METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

Land Spill: Spilled pellets present a slipping hazard on hard surfaces. Prevent dust cloud. Small Dry Spills: With clean shovel, place material into clean, dry container and cover loosely; move containers from spill area.

Water Spill: Stop leak if you can do so without risk. Confine the spill immediately with booms. Warn other shipping. Skim from surface

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

6.4. REFERENCES TO OTHER SECTIONS

See Sections 8 and 13.

SECTION 7 HANDLING AND STORAGE

7.1. PRECAUTIONS FOR SAFE HANDLING

Minimize dust generation and accumulation. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dust from material can accumulate electrostatic charges due to friction from transfer and mixing operations and cause an electrical spark (ignition source). Provide adequate precautions to ignition sources, such as electrical grounding and bonding, inert atmosphere or non-sparking tools. However, bonding and grounds may not eliminate the hazard for static accumulation. Consult local applicable standards for guidance. Refer to NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids and EN 61241, Electrical Apparatus for Use in the Presence of Combustible Dust for safe handling. Avoid elevated temperatures for prolonged periods of time. Avoid breathing material. Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Avoid all personal contact. Avoid vapour from heated materials to prevent exposure to potentially toxic/irritating fumes. Provide adequate ventilation if fumes or vapour are generated. Prevent small spills and leakage to avoid slip hazard. Care should be taken when storing and handling this product. Apart from the specific nature of the polymer product, conditions such as humidity, sunlight and temperature have an influence on the way the product behaves during storage and handling. Special attention should be paid to avoid inappropriate stacking of palletised bags or other package units. Indeed, polymer products may be dimensionally unstable under certain conditions. Avoid conditions generating heat during transfer operations.

Loading/Unloading Temperature: [Ambient]

Transport Temperature: [Ambient]
Transport Pressure: [Ambient]

Static Accumulator: This material is not a static accumulator.

7.2. CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Store in a cool, dry place. Do not store in open or unlabelled containers.
Storage Temperature: [Ambient]
Storage Pressure: [Ambient]

Suitable Containers/Packing: Bags (20/25kg)
Suitable Materials and Coatings (Chemical Compatibility): Polyethylene; Aluminium

7.3. SPECIFIC END USES

Section 1 informs about identified end-uses. No industrial or sector specific guidance available.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. CONTROL PARAMETERS

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit/Standard			Note	Source
2-ETHYLHEXYL10-ETHYL-4,4-DIOCTYL-7-OXO-8-OXA-3,5-DITHIA-4-STANNATETRADECANOATE [as Sn]		STEL	0.2 mg/m3		Skin	UK EH40

2-ETHYLHEXYL10-ETHYL-4,4-DIOCTYL-7-OXO-8-OXA-3,5-DITHIA-4-STANNATETRADECANOATE [as Sn]		TWA	0.1 mg/m3		Skin	UK EH40
2-ETHYLHEXYL10-ETHYL-4,4-DIOCTYL-7-OXO-8-OXA-3,5-DITHIA-4-STANNATETRADECANOATE [as Sn]		STEL	0.2 mg/m3		Skin	ACGIH
2-ETHYLHEXYL10-ETHYL-4,4-DIOCTYL-7-OXO-8-OXA-3,5-DITHIA-4-STANNATETRADECANOATE [as Sn]		TWA	0.1 mg/m3		Skin	ACGIH
CARBON BLACK		STEL	7 mg/m3			UK EH40
CARBON BLACK		TWA	3.5 mg/m3			UK EH40
CARBON BLACK	Inhalable fraction.	TWA	3 mg/m3			ACGIH
CARBONIC ACID, CALCIUM SALT (1:1)	Inhalable	TWA	10 mg/m3			UK EH40
CARBONIC ACID, CALCIUM SALT (1:1)	Respirable.	TWA	4 mg/m3			UK EH40
PARAFFIN WAX	Fume.	STEL	6 mg/m3			UK EH40
PARAFFIN WAX	Fume.	TWA	2 mg/m3			UK EH40
PARAFFIN WAX	Fume.	TWA	2 mg/m3			ACGIH
TIN DICHLORIDE [as Sn]		STEL	4 mg/m3			UK EH40
TIN DICHLORIDE [as Sn]		TWA	2 mg/m3			UK EH40
TIN DICHLORIDE [as Sn]	Inhalable fraction.	TWA	2 mg/m3			ACGIH
Zinc oxide	Respirable fraction.	STEL	10 mg/m3			ACGIH
Zinc oxide	Respirable fraction.	TWA	2 mg/m3			ACGIH

UK EH40 Workplace Exposure Limits. Exposure limits for use with Control of Substances Hazardous to Health Regulations 2002 (as amended)

Note: Information about recommended monitoring procedures can be obtained from the relevant agency(ies)/institute(s):

UK Health and Safety Executive (HSE)

8.2. EXPOSURE CONTROLS

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

Adequate ventilation should be provided so that exposure limits are not exceeded. SPECIAL PRECAUTIONS: Should significant vapors/fumes be generated during thermal processing of this product, it is recommended that work stations be monitored for the presence of thermal degradation by-products which may evolve at elevated temperatures (for example, oxygenated components). Processors of this product should assure that adequate ventilation or other controls are used to control exposure. It is recommended that the current ACGIH-TLVs for thermal degradation by-products be observed. Contact your local sales representative for further information. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product are designed and maintained to minimize dust generation and accumulation. Ensure that dust-handling systems (such as exhaust ducts, dusts collectors, vessels, and processing equipment) are designed to minimize the potential for dust ignition and prevent explosion propagation. For example, use explosion relief vents, an explosion suppression system or inert equipment internals. Additional examples of proper equipment include using only appropriately classified electrical equipment and powered industrial trucks.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

Half-face filter respirator Organic vapour, Particulate, European Committee for Standardization (CEN) standards EN 136, 140 and 405 provide respirator masks and EN 149 and 143 provide filter recommendations.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapour warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

Chemical resistant gloves are recommended. If product is hot, thermally protective, chemical resistant gloves are recommended. If contact with forearms is likely, wear gauntlet style gloves. CEN standards EN 420 and EN 374 provide general requirements and lists of glove types.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:
Chemical/oil resistant clothing is recommended. If product is hot, thermally protective, chemical resistant apron and long sleeves are recommended.

Specific 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 and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Solid
Form: Pellet
Colour: Black
Odour: Rubberlike
Odour Threshold: No data available
pH: Not technically feasible
Melting Point: 165°C (329°F) [In-house method]
Freezing Point: No data available
Initial Boiling Point / and Boiling Range: Not technically feasible
Flash Point [Method]: Not technically feasible
Evaporation Rate (n-butyl acetate = 1): Not technically feasible
Flammability (Solid, Gas): Not technically feasible
Upper/Lower Flammable Limits (Approximate volume % in air): UEL: No data available LEL: No data available
Vapour Pressure: Not technically feasible
Vapour Density (Air = 1): Not technically feasible
Relative Density: 0.95 - 1.06 [In-house method]
Solubility(ies): water Negligible
Partition coefficient (n-Octanol/Water Partition Coefficient): Not technically feasible
Autoignition Temperature: Not technically feasible
Decomposition Temperature: No data available
Viscosity: Not technically feasible
Explosive Properties: None

Oxidizing Properties: None

9.2. OTHER INFORMATION

Hygroscopic: Yes

SECTION 10 STABILITY AND REACTIVITY

10.1. REACTIVITY: See sub-sections below.

10.2. CHEMICAL STABILITY: Material is stable under normal conditions.

10.3. POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

10.4. CONDITIONS TO AVOID: Avoid elevated temperatures for prolonged periods of time. Elevated temperatures. >250 ºC (482 ºF)

10.5. INCOMPATIBLE MATERIALS: Acetal resins, Halogenated compounds, Nitric acid, Phenolic resins, PVC, Strong oxidisers

10.6. HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

SECTION 11 TOXICOLOGICAL INFORMATION

11.1. INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on chemical structure (polymers).
Irritation: No end point data for material.	Elevated temperatures or mechanical action may form vapours, mist, or fumes which may be irritating to the eyes, nose, throat, or lungs.
Ingestion	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on chemical structure (polymers).
Skin	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on chemical structure (polymers).
Skin Corrosion/Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on chemical structure (polymers).
Eye	
Serious Eye Damage/Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on chemical structure (polymers).
Sensitisation	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: No end point data for material.	May cause allergic skin reaction. Based on assessment of the components.

Aspiration: No end point data for material.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: No end point data for material.	Not expected to be a germ cell mutagen. Based on chemical structure (polymers).
Carcinogenicity: No end point data for material.	Not expected to cause cancer. Based on chemical structure (polymers).
Reproductive Toxicity: No end point data for material.	Contains a substance that may be a reproductive toxicant. Based on assessment of the components.
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: No end point data for material.	Not expected to cause organ damage from prolonged or repeated exposure. Based on chemical structure (polymers).

OTHER INFORMATION

For the product itself:

Dust may be irritating to the eyes and respiratory tract.
An ingredient or ingredients that are classified as a skin sensitizer.

Contains:

Carbon black: Certain carbon blacks have proved carcinogenic in animal studies. Inhalation animal studies of high concentrations resulted in chronic inflammation, lung fibrosis and lung tumours. Epidemiology studies of workers include findings of bronchitis, pneumonia, emphysema and excess cancer. Substances bound in a polymer or other matrix should present little or no hazard. Petroleum wax: Not carcinogenic in lifetime animal skin painting or oral feeding studies. Did not cause mutations in vitro. High oral doses in one rat strain (F-344) resulted in microscopic inflammatory changes (microgranulomas) in liver, spleen, and lymph nodes, some increased organ weights, inflammation of the cardiac mitral valve, and accumulation of saturated mineral hydrocarbons in certain tissues. Non-sensitizing in animal tests and human subjects. Additives that are encapsulated in the polymer. Under the normal conditions for processing and use of this polymer the encapsulated additives are not expected to pose any health hazard. However, grinding of the polymer is not recommended without the use of appropriate measures to control exposure (see Section 8 - Engineering Controls).

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

12.1. TOXICITY

Material -- Expected to be harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

12.2. PERSISTENCE AND DEGRADABILITY Not determined.

12.3. BIOACCUMULATIVE POTENTIAL Not determined.

12.4. MOBILITY IN SOIL

Material -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

12.5. PERSISTENCE, BIOACCUMULATION AND TOXICITY FOR SUBSTANCE(S)

Material does not meet the Reach Annex XIII criteria for PBT or vPvB.

12.6. OTHER ADVERSE EFFECTS

No adverse effects are expected.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

13.1. WASTE TREATMENT METHODS

Suitable routes of disposal are supervised incineration, preferentially with energy recovery, or appropriate recycling methods in accordance with applicable regulations and material characteristics at the time of disposal.

The European Waste Catalogue (EWC) code is specific to the waste generating process and waste constituents. Determine the EWC according to the criteria provided in the European Waste Catalogue and the hazardous waste list established by Commission Decision 2000/532/EC, as amended.

SECTION 14 TRANSPORT INFORMATION

LAND (ADR/RID): **14.1-14.6** Not Regulated for Land Transport

INLAND WATERWAYS (ADN): **14.1-14.6** Not Regulated for Inland Waterways Transport

SEA (IMDG): **14.1-14.6** Not Regulated for Sea Transport according to IMDG-Code

SEA (MARPOL 73/78 Convention - Annex II):

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not classified according to Annex II

AIR (IATA): **14.1-14.6** Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

REGULATORY STATUS AND APPLICABLE LAWS AND REGULATIONS

Listed or exempt from listing/notification on the following chemical inventories (May contain substance(s) subject to notification to the EPA Active TSCA inventory prior to import to USA): Please contact Customer Service (see Section 1 for supplier contact information).

15.1. SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

Applicable EU Directives and Regulations:

1907/2006 [... on the Registration, Evaluation, Authorisation and Restriction of Chemicals ... and amendments thereto]
689/2008/EC [....concerning the export and import of dangerous substances and amendments thereto]
98/24/EC [... on the protection of workers from the risk related to chemical agents at work ...]. Refer to Directive for details of requirements.
1272/2008 [on classification, labelling and packaging of substances and mixtures.. and amendments thereto]

Contains 4-(1,1,3,3-tetramethylbutyl)phenol at > 0.1 percent by weight. 4-(1,1,3,3-tetramethylbutyl)phenol is on the Candidate List of Substances of Very High Concern. Contains 2-ethylhexyl10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE) at > 0.1 percent by weight. 2-ethylhexyl10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE) is on the Candidate List of Substances of Very High Concern.

15.2. CHEMICAL SAFETY ASSESSMENT

REACH Information: A Chemical Safety Assessment has been carried out for one or more substances present in the material.

SECTION 16 OTHER INFORMATION

REFERENCES: Sources of information used in preparing this SDS included one or more of the following: results

from in house or supplier toxicology studies, CONCAWE Product Dossiers, publications from other trade associations, such as the EU Hydrocarbon Solvents REACH Consortium, U.S. HPV Program Robust Summaries, the EU IUCLID Data Base, U.S. NTP publications, and other sources, as appropriate.

List of abbreviations and acronyms that could be (but not necessarily are) used in this safety data sheet:

Acronym	Full text
N/A	Not applicable
N/D	Not determined
NE	Not established
VOC	Volatile Organic Compound
AICS	Australian Inventory of Chemical Substances
AIHA WEEL	American Industrial Hygiene Association Workplace Environmental Exposure Limits
ASTM	ASTM International, originally known as the American Society for Testing and Materials (ASTM)
DSL	Domestic Substance List (Canada)
EINECS	European Inventory of Existing Commercial Substances
ELINCS	European List of Notified Chemical Substances
ENCS	Existing and new Chemical Substances (Japanese inventory)
IECSC	Inventory of Existing Chemical Substances in China
KECI	Korean Existing Chemicals Inventory
NDSL	Non-Domestic Substances List (Canada)
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances
TLV	Threshold Limit Value (American Conference of Governmental Industrial Hygienists)
TSCA	Toxic Substances Control Act (U.S. inventory)
UVCB	Substances of Unknown or Variable composition, Complex reaction products or Biological materials
LC	Lethal Concentration
LD	Lethal Dose
LL	Lethal Loading
EC	Effective Concentration
EL	Effective Loading
NOEC	No Observable Effect Concentration
NOELR	No Observable Effect Loading Rate

Classification according to Regulation (EC) No 1272/2008

Classification according to Regulation (EC) No 1272/2008	Classification procedure
Aquatic Chronic 3; H412	Calculation
Skin Sens. 1; H317	Calculation

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):
Met. Corr. 1 H290: May be corrosive to metals; Corrosive to Metals
Acute Tox. 4 H302: Harmful if swallowed; Acute Tox Oral, Cat 4
Skin Corr. 1B H314: Causes severe skin burns and eye damage; Skin Corr/Irritation, Cat 1B
Skin Irrit. 2 H315: Causes skin irritation; Skin Corr/Irritation, Cat 2
Skin Sens. 1 H317: May cause allergic skin reaction; Skin Sensitization, Cat 1
Acute Tox. 4 H332: Harmful if inhaled; Acute Tox Inh, Cat 4
STOT SE 3 H335: May cause respiratory irritation; Target Organ Single, Resp Irr
Repr. 1B H360D: May damage the unborn child; Repro Tox, Cat 1B (Develop)
STOT RE 1 H372: Causes damage to organs through prolonged or repeated exposure; Target Organ, Repeated, Cat 1
STOT RE 2 H373: May cause damage to organs through prolonged or repeated exposure; Target Organ, Repeated, Cat 2
Aquatic Acute 1 H400: Very toxic to aquatic life; Acute Env Tox, Cat 1

Aquatic Chronic 1 H410: Very toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 1

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Composition: Component Table for REACH information was modified.
Section 01: Company Mailing Address - Additional information information was modified.
Section 08: Exposure Limits Table information was modified.
Section 12: PBT/vPvB information was modified.
Section 13: European Waste Codes - NOTE information was modified.
Section 13: European Waste Codes information was deleted.

THIS SDS COVERS THE FOLLOWING MATERIALS: Thermoplastic rubber grades for which the grade name consists of a GEOLAST designation followed by the following numeric product identifications. | 701-70 | 701-80W183 | 701-87W183 | 703-45

Internal Use Only
MHC: 0, 0, 0, 0, 0, 0

DGN: 4408966GGB (1014283)

ANNEX

Annex not required for this material.