

SAFETY DATA SHEET

Daplen™ EH227AEU-9550

Version 4.0

Revision Date 06/06/2022

Former date 07/30/2020

SECTION 1. IDENTIFICATION

Product name : Daplen EH227AEU-9550

Manufacturer or supplier's details

Supplier : Borealis Compounds Inc
176 Thomas Road, NJ 07865 Port Murray, United States of America (USA)
Telephone: +1 908 850 6200

E-mail address : sds@borealisgroup.com

Emergency telephone number : Borealis Compounds Inc, Borealis North America HSE: 908-850-6200 for Monday – Friday 8-4:30pm excluding holidays+1 215 207 0061 (regional number, NCEC Carechem 24)

Recommended use of the chemical and restrictions on use

Recommended use : Raw material for plastics industry

Restrictions on use : Use only according to our recommendations.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin sensitisation : Category 1

Reproductive toxicity : Category 2

GHS label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : H317 May cause an allergic skin reaction.
H361f Suspected of damaging fertility.

Precautionary statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.

Daplen is a trademark of the Borealis group.

Borealis AG | Trabrennstrasse 6-8 | 1020 Vienna | Austria
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P261 Avoid breathing dust.
P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

Inhalation of dust may irritate the respiratory tract.
Prolonged inhalation of high doses of decomposition products may give headache or irritation of the respiratory tract.
The product burns, but is not classified as flammable.
Warning!
May form combustible dust concentrations in air (during processing).
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature : The product is an elastomer modified polyethylene copolymer.
It contains talc.
It contains colorants.
It contains carbon black.

Components

Chemical name	CAS-No.	Concentration (% w/w)
magnesium silicate	14807-96-6	>= 20 - < 30
carbon black	1333-86-4	>= 1 - < 5
magnesium carbonate	546-93-0	>= 1 - < 5
titaniumdioxide	13463-67-7	>= 0.1 - < 1
N,N,N,N-tetrakis(4,6-bis(butyl-(N-methyl-2,2,6,6-tetramethyl piperidin-4-yl)amino)triazin-2-yl)-4,7-diazadecane-1,10-diamine	106990-43-6	>= 0.1 - < 1
quartz	14808-60-7	>= 0.1 - < 1
bis(2,2,6,6-tetramethyl-4-piperidiny)decanedioate	52829-07-9	>= 0.1 - < 1

Actual concentration is withheld as a trade secret

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SECTION 4. FIRST AID MEASURES

- If inhaled : Move to fresh air in case of accidental inhalation of dust or fumes from overheating or combustion.
Call a physician if symptoms occur.
- In case of skin contact : Cool melted product on skin with plenty of water. Do not remove solidified product.

Wash off with soap and plenty of water.
Call a physician if irritation develops or persists.
- In case of eye contact : Rinse with plenty of water.
Get medical attention if irritation develops and persists.
- If swallowed : Rinse mouth with water.
If symptoms persist, call a physician.
- Most important symptoms and effects, both acute and delayed : Inhalation may provoke the following symptoms:
Headache
Irritation
May cause an allergic skin reaction.
Suspected of damaging fertility.
- Notes to physician : Treat symptomatically.
No specific instructions needed.

SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Water in spread jet, dry chemicals, foam or carbon dioxide.
- Unsuitable extinguishing media : High volume water jet
- Specific hazards during firefighting : Principal toxicant in the smoke is carbon monoxide.

Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.
- Special protective equipment for firefighters : Wear self-contained breathing apparatus and protective suit.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Ensure adequate ventilation.
Use personal protective equipment.

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- Environmental precautions : No specific measures identified.
The product is not considered hazardous for the environment.
- Methods and materials for containment and cleaning up : Vacuum or sweep up spill.
All spill of material must be removed immediately to prevent slipping accidents.
- 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 (i.e., clearing dust surfaces with compressed air).
Non-sparking tools should be used.

SECTION 7. HANDLING AND STORAGE

- Advice on protection against fire and explosion : Dust from the product gives a potential risk for dust explosion.
Minimize dust generation and accumulation.
Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces.
All equipment shall be grounded.
- Advice on safe handling : During processing and thermal treatment of the product, small amounts of volatile hydrocarbons may be released.
Provide adequate ventilation.
Avoid inhalation of dust and decomposition fumes.
Wear suitable gloves.
- Conditions for safe storage : Safety aspects do not require any special precautions in terms of storage.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
magnesium silicate	14807-96-6	TWA (Respirable)	2 mg/m ³	NIOSH REL
		TWA (Respirable particulate matter)	2 mg/m ³	ACGIH
		TWA (Dust)	20 Million particles per cubic foot	OSHA Z-3
		TWA	2 mg/m ³	OSHA P0

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		(respirable dust fraction)		
		TWA	0.1 fibres per cubic centimeter	ACGIH
carbon black	1333-86-4	TWA	3.5 mg/m3	NIOSH REL
		TWA	3.5 mg/m3	OSHA Z-1
		TWA	3.5 mg/m3	OSHA P0
		TWA	0.1 mg/m3 (PAHs)	NIOSH REL
		TWA (Inhalable particulate matter)	3 mg/m3	ACGIH
magnesium carbonate	546-93-0	TWA (Respirable)	5 mg/m3	NIOSH REL
		TWA (total)	10 mg/m3	NIOSH REL
		TWA (total dust)	15 mg/m3	OSHA Z-1
		TWA (respirable fraction)	5 mg/m3	OSHA Z-1
		TWA (Total dust)	15 mg/m3	OSHA P0
		TWA (respirable dust fraction)	5 mg/m3	OSHA P0
titaniumdioxide	13463-67-7	TWA (total dust)	15 mg/m3	OSHA Z-1
		TWA (Total dust)	10 mg/m3	OSHA P0
		TWA	10 mg/m3 (Titanium dioxide)	ACGIH
quarts	14808-60-7	TWA (respirable)	10 mg/m3 / %SiO ₂ +2	OSHA Z-3
		TWA (respirable)	250 mppcf / %SiO ₂ +5	OSHA Z-3
		TWA (respirable dust fraction)	0.1 mg/m3	OSHA P0
		TWA (Respirable particulate matter)	0.025 mg/m3 (Silica)	ACGIH
		TWA (Respirable dust)	0.05 mg/m3 (Silica)	NIOSH REL
		TWA (Respirable dust)	0.05 mg/m3	OSHA Z-1
		PEL	0.05 mg/m3	OSHA CARC

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		(respirable)		
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Engineering measures : Provide adequate ventilation.
Local exhaust ventilation may be necessary.

It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen deficient environment.

Personal protective equipment

Respiratory protection : In case of insufficient ventilation:
Respirator with combination filter for vapour/particulate

Hand protection
Material : Nitrile rubber

Remarks : Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. As the chemicals are embedded in a solid polymer, exposure is unlikely, unless the polymer is processed in a way that makes such exposure possible.

Eye protection : Safety glasses with side-shields

Skin and body protection : Protective suit

Hygiene measures : When using do not eat, drink or smoke.
Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : pellets

Colour : black

Odour : odourless

pH : No data available

Melting range : 266 - 338 °F / 130 - 170 °C

Boiling range : Decomposes on heating.

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Flash point	:	Not applicable (solid)
Evaporation rate	:	Not applicable (solid)
Flammability (solid, gas)	:	The product is not flammable.
Upper explosion limit / Upper flammability limit	:	Not applicable
Lower explosion limit / Lower flammability limit	:	Not applicable
Vapour pressure	:	Not applicable (solid)
Density	:	1.1 - 1.2 g/cm ³
Bulk density	:	No data available
Solubility(ies) Water solubility	:	insoluble
Partition coefficient: n-octanol/water	:	Not applicable insoluble
Auto-ignition temperature	:	> 608 °F / > 320 °C
Viscosity Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Particle size	:	3 - 10 mm

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Stable under recommended storage conditions.
Chemical stability	:	The product is a stable thermoplastic.
Possibility of hazardous reactions	:	None known.
Conditions to avoid	:	None known.
Incompatible materials	:	None known.

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Hazardous decomposition products : Under fire conditions:
Carbon monoxide

During processing and thermal treatment of the product, small amounts of volatile hydrocarbons may be released.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Based on available data, the classification criteria are not met.

Components:

bis(2,2,6,6-tetramethyl-4-piperidiny)decanedioate:

Acute oral toxicity : LD50 (Rat): 3,700 mg/kg

Acute inhalation toxicity : LC50 (Rat): 0.5 mg/l
Exposure time: 4 h

Acute dermal toxicity : LD50 (Rat): > 3,170 mg/kg

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation

Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

Based on available data, the classification criteria are not met.

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Carcinogenicity

Based on available data, the classification criteria are not met.

IARC	Group 1: Carcinogenic to humans magnesium silicate	14807-96-6
	Group 1: Carcinogenic to humans quarts (Silica dust, crystalline)	14808-60-7
	Group 2B: Possibly carcinogenic to humans carbon black	1333-86-4
	Group 2B: Possibly carcinogenic to humans titaniumdioxide	13463-67-7

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OSHA	OSHA specifically regulated carcinogen quarts (crystalline silica)	14808-60-7
NTP	Known to be human carcinogen magnesium silicate (Silica, Crystalline (Respirable Size))	14807-96-6
	Known to be human carcinogen quarts (Silica, Crystalline (Respirable Size))	14808-60-7

Reproductive toxicity

Suspected of damaging fertility.

STOT - single exposure

Based on available data, the classification criteria are not met.

STOT - repeated exposure

Based on available data, the classification criteria are not met.

Aspiration toxicity

Based on available data, the classification criteria are not met.

Further information

Product:

Remarks : Inhalation of dust may irritate the respiratory tract.
Prolonged inhalation of high doses of decomposition products may give headache or irritation of the respiratory tract.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish :
Remarks: No data available

Components:

bis(2,2,6,6-tetramethyl-4-piperidinyl)decanedioate:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.57 mg/l
Exposure time: 48 h
Test Type: Short term

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC50 (Daphnia magna (Water flea)): 0.96 mg/l
Exposure time: 21 d

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Persistence and degradability

Product:

Biodegradability : Remarks: Not readily biodegradable.

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: Does not accumulate in organisms.

Mobility in soil

Product:

Mobility : Remarks: The product is insoluble and sinks in water.
Not expected to adsorb on soil.

Other adverse effects

Product:

Additional ecological information : The product is not considered hazardous for the environment.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : This substance, when discarded or disposed of is not specifically listed as a hazardous waste in Federal regulations. However, it could be hazardous if it is considered toxic, corrosive, ignitable or reactive according to Federal definitions (40 CFR 261). Additionally, it could be designated as hazardous waste if it is mixed with or comes in contact with a hazardous waste. If such contact or mixing may have occurred, check 40 CFR 261 to determine whether it is a hazardous waste.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

Not regulated as a dangerous good

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IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

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

Not applicable

National Regulations

49 CFR

Not regulated as a dangerous good

Special precautions for user

Remarks : Not dangerous goods in the meaning of ADR/RID, ADN, IMDG-Code, ICAO/IATA-DGR

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

In accordance with Hazard Communication Standard 2012 (29 CFR 1910.1200), the product does not need to be classified nor labelled.

Borealis certifies that all chemical substances in this shipment comply with all applicable rules or orders under TSCA and that Borealis is not offering a chemical substance for entry in violation of TSCA or any applicable rule or order under TSCA.

Refer to NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids, for safe handling.

US State Regulations

Massachusetts Right To Know

magnesium silicate	14807-96-6
carbon black	1333-86-4
magnesium carbonate	546-93-0
quartz	14808-60-7

Pennsylvania Right To Know

poly[(1-propene)-co-ethene](0.927:0.073 w)	9010-79-1
magnesium silicate	14807-96-6
poly[ethene-co-(1-octene)](0.76:0.24 w)	26221-73-8
poly[ethene-co-(1-octene)]	26221-73-8
poly[(1-propene)-co-ethene](0.903:0.097 w)	9010-79-1
poly[(1-propene)-co-ethene]	9010-79-1
carbon black	1333-86-4
polyethene	9002-88-4
polypropene	9003-07-0
zinc dioctadecanoate	557-05-1

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fatty acids, C16-18, zinc salts

91051-01-3

Maine Chemicals of High Concern

quarts

14808-60-7

Vermont Chemicals of High Concern

Product does not contain any listed chemicals

Washington Chemicals of High Concern

Product does not contain any listed chemicals

California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

WARNING: This product can expose you to chemicals including magnesium silicate, carbon black, quarts, Chromium (VI) compounds, which is/are known to the State of California to cause cancer, and

methanol, Chromium (VI) compounds, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

California List of Hazardous Substances

magnesium silicate

14807-96-6

carbon black

1333-86-4

California Permissible Exposure Limits for Chemical Contaminants

magnesium silicate

14807-96-6

carbon black

1333-86-4

California Regulated Carcinogens

magnesium silicate

14807-96-6

quarts

14808-60-7

SECTION 16. OTHER INFORMATION

Further information

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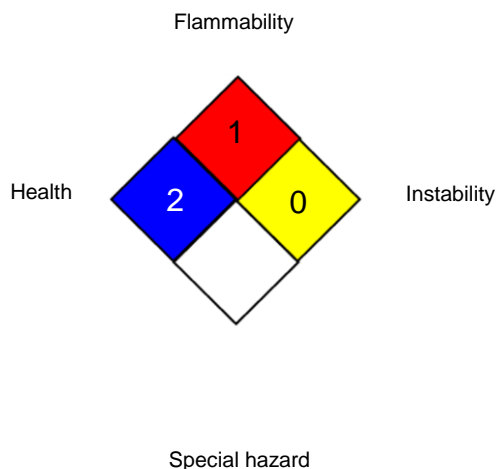
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NFPA 704:



HMIS® IV:

HEALTH	*	2
FLAMMABILITY		1
PHYSICAL HAZARD		0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
NIOSH REL	:	USA. NIOSH Recommended Exposure Limits
OSHA CARC	:	OSHA Specifically Regulated Chemicals/Carcinogens
OSHA P0	:	USA. Table Z-1-A Limits for Air Contaminants (1989 vacated values)
OSHA Z-1	:	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
OSHA Z-3	:	USA. Occupational Exposure Limits (OSHA) - Table Z-3 Mineral Dusts
ACGIH / TWA	:	8-hour, time-weighted average
NIOSH REL / TWA	:	Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
OSHA CARC / PEL	:	Permissible exposure limit (PEL)
OSHA P0 / TWA	:	8-hour time weighted average
OSHA Z-1 / TWA	:	8-hour time weighted average
OSHA Z-3 / TWA	:	8-hour time weighted average

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory

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concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

Sources of key data used to compile the Safety Data Sheet : Safety data sheets of raw material suppliers.

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Disclaimer

To the best of our knowledge, the information contained herein is accurate and reliable as of the date of publication; however we do not assume any liability whatsoever for the accuracy and completeness of such information.

Borealis makes no warranties which extend beyond the description contained herein. Nothing herein shall constitute any warranty of merchantability or fitness for a particular purpose.

It is the customer's responsibility to inspect and test our products in order to satisfy itself as to the suitability of the products for the customer's particular purpose. The customer is responsible for the appropriate, safe and legal use, processing and handling of our products.

No liability can be accepted in respect of the use of Borealis' products in conjunction with other materials. The information contained herein relates exclusively to our products when not used in conjunction with any third party materials.

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