Daplen™ EH104AE-0515

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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name : Daplen EH104AE-0515

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture : Raw material for plastics industry

Recommended restrictions on use : Use only according to our recommendations.

1.3 Details of the supplier of the safety data sheet

: Borealis UK Ltd
One St Peters Square, M2 3DE Manchester, United Kingdom
Telephone: +44 (0) 1625 537390

E-mail address : sds@borealisgroup.com

1.4 Emergency telephone number

+44 (0) 1235 239 670 (NCEC Carechem 24)
In an emergency, call NHS 111 or contact a doctor.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Not a hazardous substance or mixture.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Not a hazardous substance or mixture.

Additional Labelling

EUH210 Safety data sheet available on request.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
The product burns, but is not classified as flammable.
Dust from the product gives a potential risk for dust explosion.

SECTION 3: Composition/information on ingredients

It contains aluminium powder.

3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
bis(2,2,6,6-tetramethyl-4-piperidinyl)decanedioate	52829-07-9 258-207-9	Eye Dam. 1; H318 Repr. 2; H361f Aquatic Acute 1; H400 Aquatic Chronic 2; H411 M-Factor (Acute aquatic toxicity): 1	>= 0,1 - < 0,25
Substances with a workplace exposure limit :			
magnesium silicate	14807-96-6 238-877-9		>= 10 - < 20
aluminium powder (stabilised)	7429-90-5 231-072-3 013-002-00-1	Flam. Sol. 1; H228 Water-react. 2; H261	>= 1 - < 10

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

If inhaled	:	Move to fresh air.
In case of skin contact	:	If molten material comes in contact with the skin, cool with plenty of water. DO NOT remove solidified product, as removal could result in severe tissue damage. Obtain medical attention.
In case of eye contact	:	Flush eyes with water as a precaution. Get medical attention if irritation develops and persists.
If swallowed	:	Rinse mouth with water. Consult a physician if necessary.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms	:	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.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment	:	Treat symptomatically. No specific instructions needed.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	:	Water in spread jet, dry chemicals, foam or carbon dioxide.
Unsuitable extinguishing media	:	High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting	:	Principal toxicant in the smoke is carbon monoxide.

5.3 Advice for firefighters

Special protective equipment for firefighters : Wear self-contained breathing apparatus and protective suit.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment.
Ensure adequate ventilation.

6.2 Environmental precautions

Should not be released into the environment.

It is recommended to implement systems and practices (such as Operation Clean Sweep®) to prevent accidental release of plastics in to the environment.

6.3 Methods and material for containment and cleaning up

Vacuum or sweep up spill.
All spill of material must be removed immediately to prevent slipping accidents.
Recycle or dispose loose material properly.
Do not flush into surface water or sanitary sewer system.

6.4 Reference to other sections

For personal protection see section 8.
For disposal considerations see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : During processing and thermal treatment of the product, small amounts of volatile hydrocarbons may be released.
Provide adequate ventilation.
Local exhaust ventilation may be necessary.
Avoid inhalation of dust and decomposition fumes.
Avoid contact with skin and eyes.

Advice on protection against fire and explosion : Dust from the product gives a potential risk for dust explosion.
All equipment shall be grounded. Routine housekeeping

should be instituted to ensure that dusts do not accumulate on surfaces.

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

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Safety aspects do not require any special precautions in terms of storage.

Further information on storage stability : Keep in a dry place.

7.3 Specific end use(s)

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
R phrases, see chapter 16.				
magnesium silicate	14807-96-6	TWA (Respirable dust)	1 mg/m3	GB EH40
magnesium silicate	14807-96-6	TWA (Respirable dust)	0,1 mg/m3	2004/37/EC
	Further information: Carcinogens or mutagens			
aluminium powder (stabilised)	7429-90-5	TWA (inhalable dust)	10 mg/m3	GB EH40
	Further information: For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols., The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits., Most industrial dusts contain			

	particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system, and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'., Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.			
		TWA (Respirable dust)	4 mg/m3	GB EH40
	Further information: For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols., The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system, and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'., Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.			

8.2 Exposure controls

Engineering measures

Provide adequate ventilation.
Local exhaust ventilation may be necessary.

Personal protective equipment

Eye protection	:	Safety glasses Use eye protection according to EN 166.
Hand protection		
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. Protective gloves complying with EN 374.
Skin and body protection	:	Protective clothing
Respiratory protection	:	In case of insufficient ventilation: Respirator with ABEK-P3 filter or self-contained breathing apparatus.
Protective measures	:	Appropriate personal protective equipment (PPE) shall be worn in accordance with Regulation (EU) 2016/425.

Environmental exposure controls

General advice	:	Should not be released into the environment. It is recommended to implement systems and practices (such as Operation Clean Sweep®) to prevent accidental release of plastics in to the environment.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	:	pellets
Colour	:	metallic
Odour	:	odourless
pH	:	Not applicable insoluble
Melting point/range	:	130 - 170 °C
Boiling range	:	Decomposes on heating.

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	:	0,9 - 1,0 g/cm³
Bulk density	:	500 - 600 kg/m³
Solubility(ies)		
Water solubility	:	insoluble
Partition coefficient: n-octanol/water	:	Not applicable insoluble
Auto-ignition temperature	:	> 320 °C
Viscosity		
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

9.2 Other information

Particle size	:	3 - 10 mm Method: Image analysis (surface-based)

SECTION 10: Stability and reactivity

10.1 Reactivity

Stable under recommended storage conditions.

10.2 Chemical stability

The product is a stable thermoplastic, with no chemical reactivity.

10.3 Possibility of hazardous reactions

Hazardous reactions : None known.

10.4 Conditions to avoid

Conditions to avoid : Extremes of temperature and direct sunlight.

10.5 Incompatible materials

Materials to avoid : None known.

10.6 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

11.1 Information on toxicological effects

Acute toxicity

Components:

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

Further information

Product:

Remarks	:	The product is not classified as hazardous to human health. Information given is based on data of the components.
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

12.1 Toxicity

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
M-Factor (Acute aquatic toxicity)	:	1
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	EC50: 0,96 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea)

12.2 Persistence and degradability

Product:

Biodegradability	:	Remarks: Not readily biodegradable.

12.3 Bioaccumulative potential

Product:

Bioaccumulation	:	Remarks: Does not accumulate in organisms.

12.4 Mobility in soil

Product:

Mobility	:	Remarks: Not expected to adsorb on soil.

12.5 Results of PBT and vPvB assessment

Product:

Assessment	:	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher..

12.6 Other adverse effects

Product:

Endocrine disrupting potential	:	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
Additional ecological information	:	Should not be released into the environment.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product	:	Dispose of contents/ container to an approved waste disposal plant. Reuse or recycle if not contaminated. Check with local regulations.
Contaminated packaging	:	Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14: Transport information

14.1 UN number

Not regulated as a dangerous good

14.2 UN proper shipping name

Not regulated as a dangerous good

14.3 Transport hazard class(es)

Not regulated as a dangerous good

14.4 Packing group

Not regulated as a dangerous good

14.5 Environmental hazards

Not regulated as a dangerous good

14.6 Special precautions for user

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

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

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

Relevant EU provisions transposed through retained EU law

15.2 Chemical safety assessment

no

SECTION 16: Other information

Full text of H-Statements

H228 : Flammable solid.
H261 : In contact with water releases flammable gases.
H318 : Causes serious eye damage.
H361f : Suspected of damaging fertility.
H400 : Very toxic to aquatic life.
H411 : Toxic to aquatic life with long lasting effects.

Full text of other abbreviations

Aquatic Acute	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Eye Dam.	:	Serious eye damage
Flam. Sol.	:	Flammable solids
Repr.	:	Reproductive toxicity
Water-react.	:	Substances and mixtures, which in contact with water, emit flammable gases
2004/37/EC	:	Europe. Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work
GB EH40	:	UK. EH40 WEL - Workplace Exposure Limits
2004/37/EC / TWA	:	Long term exposure limit
GB EH40 / TWA	:	Long-term exposure limit (8-hour TWA reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; 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; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; 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 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; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of very high concern; 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

Further information

Other information	:	Issued according to Regulation (EC) No 1907/2006, Annex II, and its amendments. 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	:	The classification information of components is based on raw material supplier data.

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