PP-044

Version 2.1 Revision Date: 07.06.2024 Former date: 04.06.2024

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

1.1 Product identifier

Trade name : PP-044

Unique Formula Identifier (UFI) : 7NT9-MQ8D-T2KP-35CU

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

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

1.3 Details of the supplier of the safety data sheet

Supplier : Borealis AG
Trabrennstrasse 6-8, 1020 Vienna, Austria
Telephone: +43 1 22400 0

E-mail address : sds@borealisgroup.com

1.4 Emergency telephone number

+1 760 476 3962 (3E), Access code: 336296

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Long-term (chronic) aquatic hazard, Category 2	H411: Toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Signal word : Warning

Hazard statements : H317 May cause an allergic skin reaction.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**

P261 Avoid breathing dust.
P273 Avoid release to the environment.
P280 Wear protective gloves.

Response:

P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P391 Collect spillage.

Hazardous components which must be listed on the label:

1,1-dimethylethylperoxy(2-propanolcarbonate)
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
Poly[(N,N''-1,2-ethanediylbis-1,3-propanediamine)-co-(2,4,6-trichloro-1,3,5-triazine)-co-(N-butyl-2,2,6,6-tetramethyl-4-piperidinam
6,6'-di-tert-butyl-4,4'-thiodi-m-cresol

Additional Labelling

EUH212 Warning! Hazardous respirable dust may be formed when used. Do not breathe dust.

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.

Ecological information: 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.

Toxicological information: 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.

The product burns, but is not classified as flammable.
Dust from the product gives a potential risk for dust explosion.
During crosslinking reaction in combination with base resin: methanol (Flam. Liq. 2; H225, Acute Tox. 3; H301, Acute Tox. 3; H311, Acute Tox. 3; H331, STOT SE 1; H370) is released.
In contact with water or moisture methanol will be released.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : The product is a polypropylene polymer.
It contains additives.
It contains post-industrial recycled polymer.

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
titaniumdioxide	13463-67-7 236-675-5 01-2119489379-17	Carc. 2; H351	>= 20 - < 30
1,1-dimethylethylperoxy(2-propanolcarbonate)	2372-21-6 219-143-7 UK-20-7333232785-4-0000	Org. Perox. C; H242 Skin Irrit. 2; H315 Skin Sens. 1B; H317 Asp. Tox. 1; H304 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 1 - < 2,5
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	106990-43-6 401-990-0 613-078-00-1 01-0000015180-83	Skin Sens. 1; H317 Aquatic Chronic 2; H411 STOT RE 2; H373	>= 0,25 - < 1
Poly[(N,N''-1,2-ethanediylbis-1,3-propanediamine)-co-(2,4,6-trichloro-1,3,5-triazine)-co-(N-butyl-2,2,6,6-tetramethyl-4-piperidinam	136504-96-6 500-311-6 01-2119917320-51	Skin Sens. 1; H317 Aquatic Chronic 2; H411	>= 0,25 - < 1
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;	>= 0,1 - < 0,25

		H411 M-Factor (Acute aquatic toxicity): 1	
6,6'-di-tert-butyl-4,4'-thiodi-m-cresol	96-69-5 202-525-2 01-2119514452-49	Aquatic Acute 1; H400 Aquatic Chronic 1; H410 Skin Sens. 1; H317	>= 0,1 - < 0,25
Substances with a workplace exposure limit :			
magnesium silicate	14807-96-6 238-877-9		>= 30 - < 50
quarts	14808-60-7 238-878-4		>= 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.
If symptoms persist, call a physician.

In case of skin contact : Wash off with soap and plenty of water.
Call a physician if irritation develops or persists.
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.

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.

Skin contact may provoke the following symptoms:
Irritation

Symptoms of poisoning (methanol):
Daze
Dizziness
Nausea
Abdominal pain
Respiratory disorders

Symptoms of poisoning, prolonged exposure (methanol):
Blindness

Risks : May cause an allergic skin reaction.

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.

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

Ensure adequate ventilation.
Use personal protective equipment.

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. May cause sensitisation of susceptible persons. Personnel sensitised to this substance should not be allowed to handle the product.
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)

Specific use(s)	:	Raw material for plastics industry

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

For national exposure limit (OEL) values, check country specific safety data sheets.

Occupational exposure limits of decomposition products

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
methanol	67-56-1	TWA	200 ppm 260 mg/m3	2006/15/EC
Further information	Indicative, Identifies the possibility of significant uptake through the skin			

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
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	Workers	Inhalation	Long-term	0,36 mg/kg
	Workers	Dermal	Long-term	0,05 mg/kg
	Consumers	Dermal	Long-term	0,025 mg/kg
	Consumers	Oral	Long-term	0,025 mg/kg
6,6'-di-tert-butyl-4,4'-thiodi-m-cresol	Workers	Skin contact	Long-term systemic effects	4,2 mg/kg bw/d

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
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	Fresh water	0,06 mg/l
	Marine water	0,006 mg/l
	Fresh water sediment	28,3 mg/kg
	Marine sediment	2,83 mg/kg
6,6'-di-tert-butyl-4,4'-thiodi-m-cresol	Fresh water	0,00016 mg/l
	Marine water	0,000016 mg/l
	Intermittent use/release	0,0016 mg/l
	Fresh water sediment	6,52 mg/kg
	Marine sediment	0,652 mg/kg
	Soil	1,3 mg/kg

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	:	Protective gloves Protective gloves complying with EN 374. 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.
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

Physical state	:	pellets
Colour	:	coloured
Odour	:	slight
Melting point/range	:	130 - 170 °C
Boiling range	:	Decomposes on heating.
Flammability	:	The product is not flammable.
Upper explosion limit / Upper flammability limit	:	Not applicable

Lower explosion limit / Lower flammability limit	:	Not applicable
Flash point	:	Not applicable, (solid)
Auto-ignition temperature	:	> 320 °C
pH	:	Not applicable insoluble
Viscosity		
Viscosity, dynamic	:	No data available
Solubility(ies)		
Water solubility	:	insoluble
Partition coefficient: n-octanol/water	:	Not applicable insoluble
Vapour pressure	:	Not applicable (solid)
Density	:	0,9 - 1,0 g/cm³
Particle size	:	3 - 10 mm Method: Image analysis (surface-based)

9.2 Other information

Explosives	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Evaporation rate	:	Not applicable (solid)

SECTION 10: Stability and reactivity

10.1 Reactivity

Stable under recommended storage conditions.

10.2 Chemical stability

The product is a stable thermoplastic.

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.
During crosslinking reaction in combination with base resin: methanol

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

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

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

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.

Product:

Remarks	:	The classification as a carcinogen by inhalation applies only to mixtures in powder form containing 1 % or more of titanium dioxide which is in the form of or incorporated in particles with aerodynamic diameter <= 10 µm.

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

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.

11.2 Information on other hazards

Endocrine disrupting properties

Product:

Assessment	:	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.

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

12.1 Toxicity

Components:

1,1-dimethylethylperoxy(2-propanolcarbonate):

Toxicity to fish	:	LC50 : 0,314 mg/l Exposure time: 48 h

Poly[(N,N''-1,2-ethanediylbis-1,3-propanediamine)-co-(2,4,6-trichloro-1,3,5-triazine)-co-(N-butyl-2,2,6,6-tetramethyl-4-piperidinam:

Toxicity to fish	:	LC50 (zebrafish (Brachydanio rerio)): > 119 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 7,3 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	IC50 (Selenastrum capricornutum (green algae)): 1,2 mg/l Exposure time: 72 h

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

6,6'-di-tert-butyl-4,4'-thiodi-m-cresol:

Toxicity to fish	:	LC50 (fathead minnow (Pimephales promelas)): 0,36 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0,16 mg/l Exposure time: 48 h

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 Endocrine disrupting properties

Product:

Assessment	:	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.

12.7 Other adverse effects

Product:

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. 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 or ID 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 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

Category		Quantity 1	Quantity 2
E2	ENVIRONMENTAL HAZARDS	200 t	500 t

15.2 Chemical safety assessment

no

SECTION 16: Other information

Full text of H-Statements

H242	:	Heating may cause a fire.
H304	:	May be fatal if swallowed and enters airways.
H315	:	Causes skin irritation.
H317	:	May cause an allergic skin reaction.
H318	:	Causes serious eye damage.
H351	:	Suspected of causing cancer if inhaled.
H361f	:	Suspected of damaging fertility.
H373	:	May cause damage to organs through prolonged or repeated exposure.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.
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
Asp. Tox.	:	Aspiration hazard
Carc.	:	Carcinogenicity
Eye Dam.	:	Serious eye damage
Org. Perox.	:	Organic peroxides
Repr.	:	Reproductive toxicity
Skin Irrit.	:	Skin irritation
Skin Sens.	:	Skin sensitisation
STOT RE	:	Specific target organ toxicity - repeated exposure
2006/15/EC	:	Europe. Indicative occupational exposure limit values
2006/15/EC / TWA	:	Limit Value - eight hours

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.
Issuer	:	Borealis, Group Product Stewardship
Sources of key data used to compile the Safety Data Sheet	:	The classification information of components is based on raw material supplier data.

Classification of the mixture:		**Classification procedure:**
Skin Sens. 1	H317	Calculation method
Aquatic Chronic 2	H411	Calculation method

Disclaimer

Recycled plastics are subject to material inconsistencies. mtm makes no warranties which extend beyond the description contained herein and to the best of our knowledge, the information is accurate and reliable as of the date of publication. Because of the multitude of possible influences during the use and application of our products, the information included does not release customers and users from the obligation to examine and test them carefully. Please note that 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 as mtm do not know the origin of the product. Where necessary, the customer is recommended to obtain a feedstock release from the customer. 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 any mtm product in conjunction with any other products and/or materials. The information contained herein relates exclusively to our products when not used in conjunction with any other material unless as specifically provided for in the test methods stated above. The product(s) mentioned herein are not intended to be used for food contact, drinking water contact, medical, pharmaceutical or healthcare applications and we do not support their use for such applications. Otherwise, our General Terms and Conditions of Sale apply.