

PET CF

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

A safety data sheet is not required for this product. This document was created on a voluntary basis.

SDS ID: UM00013

Revision date: 04/05/2023 Version: 1.0

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

1.1. Product identifier

Product form : Mixture
Trade name : PET CF
(Blue, Black, Grey)

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

1.2.1. Relevant identified uses

Main use category : Professional use
Use of the substance/mixture : 3D-Printer filament

1.2.2. Uses advised against

Restrictions on use : This product must not be used in applications other than those identified above, without first seeking advice of the supplier

1.3. Details of the supplier of the safety data sheet

Supplier

UltiMaker
Watermolenweg 2
4191 PN Geldermalsen - The Netherlands
T +31 (0) 88 383 4000 (during office hours: 9 AM - 5 PM CET)
Product-Compliance@Ultimaker.com

1.4. Emergency telephone number

Call a doctor if you feel unwell

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

EUH-statements : EUH208 - Contains 4,4'-ISOPROPYLDENEDIPHENOL/EPICHLOROHYDRIN COPOLYMER, benzene-1,2:4,5-tetracarboxylic dianhydride; benzene-1,2:4,5-tetracarboxylic dianhydride; pyromellitic dianhydride. May produce an allergic reaction.
EUH210 - Safety data sheet available on request.

2.3. Other hazards

Other hazards not contributing to the classification : Risk of thermal burns on contact with molten product.

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

Other information : This substance/mixture does not meet the PBT/vPvB criteria of REACH regulation, annex XIII.

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SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Comments : Proprietary Formulation

Name	Product identifier	Conc. (% w/w)	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Pyromellitic dianhydride	(CAS-No.) 89-32-7 (EC-No.) 201-898-9 (EC Index-No.) 607-098-00-X	$\geq 0.1 - < 1$	Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317
reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)	(CAS-No.) 25068-38-6 (EC-No.) 500-033-5 (EC Index-No.) 603-074-00-8	$\geq 0.1 - < 0.25$	Eye Irrit. 2, H319 Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 2, H411
Carbon black (Additive for PET CF Black)	(CAS-No.) 1333-86-4 (EC-No.) 215-609-9		Not classified

Specific concentration limits:

Name	Product identifier	Specific concentration limits
reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)	(CAS-No.) 25068-38-6 (EC-No.) 500-033-5 (EC Index-No.) 603-074-00-8	($5 \leq C \leq 100$) Eye Irrit. 2, H319 ($5 \leq C \leq 100$) Skin Irrit. 2, H315

Full text of H- and EUH-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. In molten state: Hazardous vapours may be released.
First-aid measures after skin contact	: In case of contact with molten product, cool rapidly with water and seek immediate medical attention. Do not attempt to remove molten product from skin because skin will tear easily. Burns caused by molten material must be treated clinically. Wash skin with plenty of water and soap. Take off contaminated clothing.
First-aid measures after eye contact	: Rinse eyes with water as a precaution. In the event of contact with molten product: Immediately flush eyes thoroughly with water for at least 15 minutes. Get immediate medical advice/attention.
First-aid measures after ingestion	: If you feel unwell, seek medical advice.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects	: No acute and delayed symptoms and effects are observed.
Symptoms/effects after skin contact	: Risk of thermal burns on contact with molten product.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Use extinguishing media appropriate for surrounding fire: Water spray, Dry powder, Foam, Carbon dioxide.
Unsuitable extinguishing media	: Do not use a solid water stream as it may scatter and spread fire.

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5.2. Special hazards arising from the substance or mixture

- Explosion hazard : Material can accumulate some static charge during transfer. Prevent build-up of electrostatic charges (e.g. by grounding).
- Hazardous decomposition products in case of fire : Under fire conditions, hazardous fumes will be present: Carbon dioxide, Carbon monoxide, Acids, Aldehydes, Ammonia, Hydrogen cyanide, nitrile, nitrogen oxides (NOx) and sulphur oxides.

5.3. Advice for firefighters

- Precautionary measures fire : Do not allow run-off from fire-fighting to enter drains or water courses.
- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : During mechanical post processing of 3D printed parts avoid exposure to dust and apply external air extraction to outside air or a suitable filter.
- 6.1.1. For non-emergency personnel**
- Protective equipment : Wear recommended personal protective equipment. Refer to section 8.2. Remove contaminated clothing and shoes.
- Emergency procedures : None in particular. Do not breathe dust. In molten state: Do not breathe vapours. Ventilate spillage area. Avoid contact with skin, eyes and clothing. Evacuate unnecessary personnel.
- Measures in case of dust release : Caution : this product can cause the floor to be very slippery.
- 6.1.2. For emergency responders**
- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

- For containment : Stop leak if safe to do so.
- Methods for cleaning up : Sweep up and put in a closed container for disposal. If melted: allow liquid to solidify before taking it up. Shovel or sweep up and put in a closed container for disposal.
- Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For disposal of residues refer to section 13: "Disposal considerations".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : During mechanical post processing of 3D printed parts avoid exposure to dust and apply external air extraction to outside air or a suitable filter. Avoid dust formation. Do not breathe dust. In molten state: Do not breathe vapours. Avoid contact with skin, eyes and clothing. Wear personal protective equipment.
- Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : To guarantee the quality and properties of the product: Store in a well-ventilated place. Store in original container. Keep container tightly closed to avoid moisture absorption and contamination. Prevent moisture contact.
- Heat and ignition sources : Keep away from heat, sparks and flames. Keep out of direct sunlight.

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7.3. Specific end use(s)

Not relevant.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

No additional information available

8.1.2. Recommended monitoring procedures

Monitoring methods	
Monitoring methods	Refer to European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) or equivalent national standard(s). Refer to European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) or equivalent national standard(s). Refer to European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) or equivalent national standard(s).

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Use process enclosures, local exhaust ventilation or other engineering controls to keep airborne levels below specified exposure limits. If user operations generate dust, fumes or mist, use ventilation to keep exposure to airborne particles below the exposure limit. During mechanical post processing of 3D printed parts avoid exposure to dust and apply external air extraction to outside air or a suitable filter. Ventilation conditions (1 printer): Provide a good standard of general ventilation, not less than 2 air changes per hour (assumes a room volume of: 30 m³).

8.2.2. Personal protection equipment

8.2.2.1. Eye and face protection

Eye protection:			
None under normal use. In molten state: Wear eye protection			
Type	Use	Characteristics	Standard
Safety glasses with side shields	In molten state		EN 166

8.2.2.2. Skin protection

Skin and body protection:	
None under normal use. In molten state: Wear suitable protective clothing	
Type	Standard
Long sleeved protective clothing	EN 13688
Hand protection:	
None under normal conditions. Use insulated gloves when handling this material hot	

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Type	Material	Permeation	Thickness (mm)	Penetration	Standard
In molten state: Chemically resistant protective gloves, Heat-resistant	Nitrile rubber (NBR)	6 (> 480 minutes)	>0.35		EN 374, EN 407

8.2.2.3. Respiratory protection

Respiratory protection:			
None under normal use. In molten state: In case of insufficient ventilation, wear suitable respiratory equipment			
Device	Filter type	Condition	Standard
Air-Purifying Respirator (APR), disposable	Type B/P2		EN 140, EN 14387

8.2.2.4. Thermal hazards

Thermal hazard protection:

Risk of thermal burns on contact with molten product. Hazardous vapours may be released. In molten state: Wear respiratory protection/heat resistant gloves.

8.2.3. Other exposure controls

Environmental exposure controls:

Avoid release to the environment.

Other information:

Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product. Wash hands immediately after handling the product. Take off contaminated clothing and wash before reuse.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Colour	: Various colours, Black, Blue, or, Grey
Appearance	: Filament
Odour	: Odourless
Odour threshold	: Not available
Melting point	: Not available
Freezing point	: Not applicable
Boiling point	: Not available
Flammability	: Non flammable
Explosive properties	: Dust can form an explosive mixture with air
Explosive limits	: Not applicable
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: Not available
pH	: Not available
Viscosity, kinematic	: Not applicable
Solubility	: Insoluble in water
Vapour pressure	: Not available
Density	: 1.4 g/cm ³
Relative density	: Not available
Relative vapour density at 20°C	: Not applicable
Particle size	: Not available
Particle size distribution	: Not available

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

No additional information available

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SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under fire conditions, hazardous fumes will be present: Carbon dioxide, Carbon monoxide, Acids, Aldehydes, Ammonia, Hydrogen cyanide, nitrile, nitrogen oxides (NOx) and sulphur oxides.

SECTION 11: Toxicological information

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

Acute toxicity (oral) : Based on available data, the classification criteria are not met
Acute toxicity (dermal) : Based on available data, the classification criteria are not met
Acute toxicity (inhalation) : Based on available data, the classification criteria are not met

reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight \leq 700) (25068-38-6)	
LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 420 (Acute Oral Toxicity - Fixed Dose Method)
LD50 oral	11400 mg/kg
LD50 dermal rat	> 2000 mg/kg OECD 402

Pyromellitic dianhydride (89-32-7)	
LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 420 (Acute Oral Toxicity - Fixed Dose Method), Guideline: EU Method B.1 bis (Acute Oral Toxicity - Fixed Dose Procedure)
LD50 oral	2250 mg/kg
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal))

Skin corrosion/irritation : Based on available data, the classification criteria are not met
Serious eye damage/irritation : Based on available data, the classification criteria are not met
Respiratory or skin 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
Reproductive toxicity : Based on available data, the classification criteria are not met

Pyromellitic dianhydride (89-32-7)	
Additional information	Based on available data, the classification criteria are not met. (OECD 421 method)

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 hazard : Based on available data, the classification criteria are not met

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PET CF (Blue, Black, Grey)	
Viscosity, kinematic	Not applicable

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties : Contains no substances identified as having endocrine disrupting properties

11.2.2 Other information

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute) : Not classified
Hazardous to the aquatic environment, long-term (chronic) : Not classified

reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight \leq 700) (25068-38-6)	
LC50 fish 1	1.5 ml/l OECD 203
EC50 Daphnia 1	\approx 2 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	9.4 mg/l
NOEC chronic crustacea	0.3 mg/l OECD 211

Pyromellitic dianhydride (89-32-7)

LC50 fish 1	> 100 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 Daphnia 1	63 mg/l Test organisms (species): Daphnia magna

12.2. Persistence and degradability

PET CF (Blue, Black, Grey)	
Persistence and degradability	No additional information available.

reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight \leq 700) (25068-38-6)	
Persistence and degradability	Not rapidly degradable.

Pyromellitic dianhydride (89-32-7)

Persistence and degradability	Readily biodegradable.
Biodegradation	100 %

12.3. Bioaccumulative potential

PET CF (Blue, Black, Grey)	
Bioaccumulative potential	No additional information available.

reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight \leq 700) (25068-38-6)	
Bioconcentration factor (BCF REACH)	31

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Partition coefficient n-octanol/water (Log Pow)	3.242 OECD 117
Pyromellitic dianhydride (89-32-7)	
Partition coefficient n-octanol/water (Log Pow)	≤ -2.03

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

Adverse effects on the environment caused by endocrine disrupting properties : Contains no substances identified as having endocrine disrupting properties

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste) : Dispose of in accordance with relevant local regulations.
Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations : Empty containers should be taken for recycling, recovery or waste in accordance with local regulation.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.2. UN proper shipping name				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available				

14.6. Special precautions for user

Overland transport

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

Inland waterway transport

Not regulated

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Rail transport
Not regulated

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Reference code	Applicable on	Entry title or description
3(b)	reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight \leq 700)	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10
3(c)	reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight \leq 700)	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard class 4.1

Contains no substance(s) listed on the REACH Candidate List

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

Not required

No chemical safety assessment has been carried out

SECTION 16: Other information

Indication of changes:

Contact details. Exposure controls/personal protection. Regulatory information. SDS EU format according to COMMISSION REGULATION (EU) 2020/878. Not applicable.

Training advice : Ensure staff are informed of and trained on the nature of exposure and basic actions to minimise exposure.

Abbreviations and acronyms:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS	Chemical Abstract Service number
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
vPvB	Very Persistent and Very Bioaccumulative
PBT	Persistent Bioaccumulative Toxic
SDS	Safety Data Sheet
CAS-No.	Chemical Abstract Service number

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Full text of H- and EUH-statements:	
Aquatic Chronic 2	Hazardous to the aquatic environment – Chronic Hazard, Category 2
EUH208	Contains 4,4'-ISOPROPYLIDENEDIPHENOL/EPICHLOROHYDRIN COPOLYMER, benzene-1,2:4,5-tetracarboxylic dianhydride; benzene-1,2:4,5-tetracarboxylic dianhydride; pyromellitic dianhydride. May produce an allergic reaction.
EUH210	Safety data sheet available on request.
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H411	Toxic to aquatic life with long lasting effects.
Resp. Sens. 1	Respiratory sensitisation, Category 1
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1

Safety Data Sheet applicable for regions : IE - Ireland;GB - United Kingdom

Safety Data Sheet (SDS), EU - Ultimaker

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.