PET CF

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)
A safety data sheet is not required for this product. This document was created on a voluntary basis.
SDS ID: UM00013_AU
Issue date: 11/10/2023 Version: 1.0

SECTION 1: Identification

1.1. GHS Product identifier

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

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

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

1.4. Supplier's details

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

1.5. Emergency phone number

Emergency number	:	+31 (0) 88 383 4000 (during office hours: 9 AM - 5 PM CET)

SECTION 2: Hazard identification

2.1. Classification of the hazardous chemical

Classification according to the model Work Health and Safety Regulations (WHS Regulations)

Respiratory sensitisation, Category 1	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitisation, Category 1	May cause an allergic skin reaction.

Full text of H-statements: see section 16

2.2. GHS Label elements, including precautionary statements

2.3. Other hazards which do not result in classification

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

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Comments : Proprietary Formulation

Name	Chemical name / Synonyms	Product identifier	Conc. (% w/w)	Classification (GHS CA)
Pyromellitic dianhydride	-	CAS-No.: 89-32-7	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	0.1 – 0.25	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317
Carbon black (Additive for PET CF Black)	-	CAS-No.: 1333-86-4		Not classified

SECTION 4: First-aid measures

4.1. Description of necessary first-aid measures

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 ingestion : If you feel unwell, seek medical advice.

First-aid measures general : If you feel unwell, seek medical advice (show the label where possible).

4.2. Symptoms caused by exposure

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 immediate medical attention and special treatment needed, if necessary

Other medical advice or treatment : Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.

5.2. Specific hazards arising from the chemical

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. Special protective actions for fire-fighters

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

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.
Personal Precautions, Protective Equipment and Emergency Procedures	:	Avoid contact with skin, eyes and clothing. In molten state: Do not breathe vapours. Wear recommended personal protective equipment. Refer to section 8.2. Remove contaminated clothing and shoes. Ventilate spillage area.

6.2. Environmental precautions

Methods for cleaning up	:	Sweep up and put in a closed container for disposal. If melted: allow liquid to solidify before taking it up.
Other information	:	Dispose of materials or solid residues at an authorized site.

6.3. Methods and materials for containment and cleaning up

For further information refer to section 8: "Exposure controls/personal protection"

SECTION 7: Handling and storage, including how the chemical may be safely used

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.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters - exposure standards

Carbon black (Additive for PET CF Black) (1333-86-4)	
Australia - Occupational Exposure Limits	
Local name	Carbon black
TWA (mg/m³)	3 mg/m³
Regulatory reference	Workplace exposure standards for airborne contaminants (2022)

8.2. 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).

Environmental exposure controls : Avoid release to the environment.

8.3. Appropriate engineering controls

Hand protection:				
None under normal conditions. Use insulated gloves when handling this material hot				
Type	**Material**	**Permeation**	**Thickness (mm)**	**Penetration**
In molten state: Chemically resistant protective gloves, Heat-resistant	Nitrile rubber (NBR)	6 (> 480 minutes)	>0.35	

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

Skin and body protection:
None under normal use. In molten state: Wear suitable protective clothing
Type
Long sleeved protective clothing

Respiratory protection:
None under normal use. In molten state: In case of insufficient ventilation, wear suitable respiratory equipment

Device	Filter type	Condition
Air-Purifying Respirator (APR), disposable	Type B/P2	

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.

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.

8.4. Exposure limit values for the other components

No additional information available

SECTION 9: Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	:	Solid
Appearance	:	Filament
Colour	:	Various colours Black Blue or Grey
Odour	:	Odourless
Odour threshold	:	No data available
pH	:	No data available
Relative evaporation rate (butylacetate=1)	:	No data available
Relative evaporation rate (ether=1)	:	No data available
Melting point	:	No data available
Freezing point	:	Not applicable
Boiling point	:	No data available
Flash point	:	Not applicable
Auto-ignition temperature	:	Not applicable
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	Non flammable
Vapour pressure	:	No data available
Relative vapour density at 20°C	:	No data available
Relative density	:	No data available
Density	:	1.4 g/cm³
Solubility	:	Insoluble in water.
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Viscosity, kinematic	:	Not applicable
Explosive properties	:	Dust can form an explosive mixture with air.
Explosive limits	:	Not applicable

9.2. Data relevant with regard to physical hazard classes (supplemental)

No additional information available

SECTION 10: Stability and reactivity

Reactivity : No additional information available

Chemical stability	:	No additional information available
Possibility of hazardous reactions	:	No additional information available
Conditions to avoid	:	None under recommended storage and handling conditions (see section 7).
Incompatible materials	:	No additional information available
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.
Hardening time:	:	

SECTION 11: Toxicological information

11.1. Effects on humans

Acute toxicity (oral)	:	Not classified
Acute toxicity (dermal)	:	Not classified
Acute toxicity (inhalation)	:	Not classified

Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 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
ATE CA (oral)	11400 mg/kg bodyweight

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))
ATE CA (oral)	2250 mg/kg bodyweight

Skin corrosion/irritation	:	Not classified
Serious eye damage/irritation	:	Not classified
Respiratory or skin sensitization	:	May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
Germ cell mutagenicity	:	Not classified
Carcinogenicity	:	Not classified
Reproductive toxicity	:	Not classified

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

STOT-single exposure	:	Not classified
STOT-repeated exposure	:	Not classified

Aspiration hazard : Not classified

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

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.

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 ≤ 700)(25068-38-6)	
LC50 fish 1	1.5 ml/l OECD 203
EC50 Daphnia 1	1.7 mg/l
EC50 72h - Algae [1]	9.4 mg/l
NOEC chronic crustacea	0.3 mg/l OECD 211
Bioconcentration factor (BCF REACH)	31
Partition coefficient n-octanol/water (Log Pow)	3.242 OECD 117

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
EC50 72h - Algae [1]	> 100 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
NOEC (chronic)	79 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
Partition coefficient n-octanol/water (Log Pow)	≤ -2.03
LOEC (chronic)	> 79 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

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 ≤ 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 ≤ 700)(25068-38-6)	
Bioconcentration factor (BCF REACH)	31
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

Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)(25068-38-6)	
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

12.5. Other adverse effects

Ozone : Not classified

SECTION 13: Disposal considerations

13.1. Disposal methods

Regional waste regulation : Dispose of in accordance with relevant local regulations.

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 DOT / TDG / IMDG / IATA

ADG	IMDG	IATA
14.1. UN number		
Not regulated for transport		

ADG	IMDG	IATA
14.2. Proper Shipping Name		
Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)		
Not applicable	Not applicable	Not applicable
14.4. Packing group		
Not applicable	Not applicable	Not applicable
14.5. Environmental hazards		
Not applicable	Not applicable	Not applicable
No supplementary information available		

14.6. Special precautions for user

ADG

No data available

IMDG

No data available

IATA

No data available

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

Not applicable

SECTION 15: Regulatory information

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

National regulations : All the chemicals contained in this product are listed introductions.
This chemical is not covered by the Agricultural and Veterinary Chemicals Act 1988.
This chemical is not covered by the Standard for the Uniform Scheduling of Medicines and Poisons.

International regulations : Not subject to the Basel Convention (Hazardous Waste).
Not subject to the International Convention for the Prevention of Pollution from Ships (MARPOL).
Not subject to the Montreal Protocol (Ozone depleting substances).
Not subject to the Rotterdam Convention (Prior Informed Consent).
Not subject to the Stockholm Convention (Persistent Organic Pollutants).

SECTION 16: Any other relevant information

Version : 1.0
Issue date : 11/10/2023

Indication of changes: : Not applicable.

SDS AU (GHS Australia) - UM

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.