SAFETY DATA SHEET

According to Regulation (EC) No 1907/2006 and 453/2010 (REACH)

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1. IDENTIFICATION OF THE SUBSTANCE AND COMPANY

Trademark:	THERMOCOMP™
Product Code:	GX94043L - BK1B481
Product Description:	Polysulfone [CASRN 25154-01-2]
Product Type:	Commercial Product
Recommended use:	May be used to produce molded or extruded articles or as a component of other industrial products.
Company:	SABIC Innovative Plastics B.V. Plasticslaan 1 P.O. Box 117 4600 AC Bergen op Zoom The Netherlands
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2. HAZARDS IDENTIFICATION

The additives in this product are bound in a thermoplastic resin matrix. In accordance with GHS for the classification of the product, the hazard potential may be assessed with respect to the physico-chemical form and/or bioavailability of the individual components in the thermoplastic resin.

Where GHS classifications are shown below, these are based on the individual components in the thermoplastic resin matrix. Under the typical use conditions for the resin, these hazardous components are unlikely to contribute to workplace exposure. Please read the entire safety data sheet and/or consult an EHS professional for a complete understanding.

Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Acute aquatic toxicity	• Category 3
Chronic aquatic toxicity	• Category 3

CLP/GHS-Labeling

Hazard Statements
• Harmful to aquatic life with long lasting effects

Precautionary Statements

• P273 - Avoid release to the environment
• P501 - Dispose of contents/container to an approved waste disposal plant

Prevention
Avoid release to the environment.
Disposal
• Dispose of contents/container to an approved waste disposal plant

Other hazards which do not result in classification:

SABIC Emergency Overview

• Fumes produced during melt processing may cause eye, skin, and respiratory tract irritation. Severe over-exposure may result in nausea, headache, chills, and fever. See below for additional effects.
• Secondary operations, such as grinding, sanding, or sawing can produce dust which may present an explosion or respiratory hazard.
• Pellets with slight or no odor
• Spilled material may create slipping hazard
• Can burn in a fire creating dense, toxic smoke
• Molten plastic can cause severe thermal burns

Other Information:	Cool skin rapidly with cold water after contact with molten material. Heating can release hazardous gases. Hazardous fumes can also occur in post-processing operations.
Processing Issues:	Processing vapors may cause irritation to the eyes, skin, and respiratory tract. In cases of severe exposure, nausea and headache can also occur. Grease-like processing vapor condensates on ventilation ductwork, molds, and other surfaces can cause irritation and injury to skin.
Aggravated Medical Conditions:	MEDICAL RESTRICTIONS: There are no known health effects aggravated by exposure to this product. However, certain sensitive individuals and individuals with respiratory impairments may be affected by exposure to components in the processing vapors.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Product Type Mixture

HAZARDOUS COMPONENTS:

Chemical Name	CAS Number	Weight %	Classification (67/548/EEC):	GHS Classification (EC) No. 1272/2008 [CLP]:
Titanium dioxide	13463-67-7	5-10	R23-33-36/37/38/25-29	
Zinc oxide	1314-13-2	1-5	N;R50-53	Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)

For the full text of the H-phrases, if mentioned in this section, see Section 16.

The non-hazardous components and exact percentage (concentration) of the composition have been withheld as a trade secret.

This product consists primarily of high molecular weight polymers which are not expected to be hazardous. The ingredients in this product are present within the polymer matrix and are not expected to be hazardous.

4. FIRST AID MEASURES

If Inhalation: Move to fresh air in case of accidental inhalation of fumes from overheating or combustion If symptoms persist, call a physician

On skin contact: Immediately cool the skin by rinsing with cold water after contact with hot material Wash off immediately with soap and plenty of water Consult a physician

On contact with eyes: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes If eye irritation persists, consult a specialist

On ingestion: No hazards which require special first aid measures

Precautions: Cool molten product on skin with plenty of water. Do not remove solidified product Do not peel polymer from the skin

5. FIRE-FIGHTING MEASURES

Autoignition Temperature:	No information available
Explosive Limits upper:	Not determined
lower:	Not determined
Suitable Extinguishing Media:	Use dry chemical, CO2, water spray or "alcohol" foam. Water is the best extinguishing medium. Carbon dioxide and dry chemical are not generally recommended because their lack of cooling capacity may permit re-ignition on larger resin fires (blobs, drools, etc.)
Unsuitable Extinguishing Media for Safety Reasons:	Do not use a solid water stream as it may scatter and spread fire
Hazardous Decomposition Products:	See section 10
Special Protective Equipment for Firefighters:	In the event of fire, wear self-contained breathing apparatus (EU: NEN-EN137)
Specific Hazards:	Take precautionary measures against static discharges During processing, dust may form explosive mixture in air Thermal decomposition can lead to release of irritating gases and vapors

6. ACCIDENTAL RELEASE MEASURES

Clean up:	Sweep up and shovel into suitable containers for disposal. Do not create a powder cloud by using a brush or compressed air.
Personal Precautions:	See section 8.
Environmental Precautions:	Do not flush into surface water or sanitary sewer system. Material should not be released into the environment.

7. HANDLING AND STORAGE

Handling:	Handle in accordance with good industrial hygiene and safety practices. Provide for appropriate exhaust ventilation and dust collection at machinery. Avoid dust formation. All metal parts of the mixing and processing equipment must be earthed.
Storage:	Store in closed container in a dry and cool area. Keep away from heat sources and sources of ignition.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits:	No components with information, unless noted below
Chemical Name	**Titanium dioxide** **13463-67-7**
France INRS (VME)	10 MGM3 Ti
Netherlands OEL - MAC	10 MGM3
UK EH40 MEL (TWA)	WEL_TWA: 4 mg/m³ respirable, 10 mg/m³ total inhalable
Spain - Valores Limite Ambientales - VLE	VLA-ED: 10 mg/m³
Denmark TWA Data - Threshold Limit Values (TLV):	GR: 6 mg/m³ beregnet som Ti
Switzerland SUVA Limit Values at the Workplace Data - Time Weighted Average (TWA):	MAK_Wert: 3 mg/m³ alveolengangiger ; Kol_SS: Grp_C
Sweden Threshold Limit Values Data -	NGV: 5 MGM3 totaldamm
Portugal - TWAs	VLE-MP: 10 mg/m³ ; NOT: A_4; FUND: Pulmão
Norway Exposure Limit Values Data - Threshold Limit Value:	KONS: 5 mg/m³
Ireland Exposure Limit Values Data - Time Weighted Average (TWA):	TWA 4 mg/m³ respirable dust, 10 mg/m³ total inhalable dust
Greece - OEL	DT_1 5 mg/m³ T_1 , 10 mg/m³ T_3
Italy - OEL	10 MGM3
Poland - OEL:TWAs	10 mg/m³ NDS
Chemical Name	**Zinc oxide** **1314-13-2**
France INRS (VME)	5 MGM3 Fume. 10 MGM3 Dust.
Netherlands OEL - MAC	5 MGM3 Fume.
Spain - Valores Limite Ambientales - VLE	5MGM3 10MGM3
Denmark TWA Data - Threshold Limit Values (TLV):	GR: 4 mg/m³ beregnet som Zn
Switzerland SUVA Limit Values at the Workplace Data - Time Weighted Average (TWA):	MAK_Wert: 3 mg/m³ alveolengangiger-Rauch ; Kurz_Wert: 3 mg/m³ alveolengangiger-Rauch ; Zeitl.: 15 min
Sweden Threshold Limit Values Data -	NGV: 5 MGM3 totaldamm
Portugal - TWAs	VLE-CD: p_(), 10 mg/m³ fumos; VLE-MP: p_(), 10 mg/m³ Poeiras, 5 mg/m³ fumos; NOT: p_(); FUND: Febre do soldador, Pulmão
Norway Exposure Limit Values Data - Threshold Limit Value:	KONS: 5 mg/m³
Ireland Exposure Limit Values Data - Time Weighted Average (TWA):	TWA 5 mg/m³ Fume; STEL 10 mg/m³ Fume
Greece - OEL	DT_1 5 mg/m³ T_4 ; DT_2 10 mg/m³ T_4
Finland Exposure Limit Values Data - Time Weighted Average (TWA):	HTP_8: 2 mg/m³ ; HTP_15: 10 mg/m³ ; R-lauseet: R50/53
Italy - OEL	2 MGM3 Respirable fraction.

**SABIC Recommended Exposure Limits have been established for certain chemicals.*

Engineering Measures toExposure:	In the case of hazardous fumes, wear self-contained breathing apparatus. Wear face-shield and protective suit for abnormal processing problems. Handle in accordance with good industrial hygiene and safety practice. Provide for appropriate exhaust ventilation at machinery.
Hand Protection:	Protective gloves should be worn. (EU: NEN-EN 374).
Eye Protection:	Safety glasses with side-shields. (EU: NEN-EN 165-166).
Respiratory Protection:	In the case of hazardous fumes, wear self contained breathing apparatus. In case of insufficient ventilation wear suitable respiratory equipment. (EU: NEN-EN149).

Body Protection: Long sleeved clothing. (EU: NEN-EN 340-369-465).

Hygiene Measures: When using, do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Solid
Appearance:	Pellets
Color:	Same as color code
Odor:	None
Melting point/range:	Various
Autoignition Temperature:	No information available
Vapor Pressure:	Negligible
Water Solubility:	Insoluble
Evaporation Rate:	Negligible
Specific gravity:	>1; (water = 1)
VOC content (%):	Negligible
Explosive Limits	
upper:	Not determined
lower:	Not determined

10. STABILITY AND REACTIVITY

Stability: Stable under ambient conditions. Hazardous polymerization does not occur.

Conditions to Avoid: To avoid thermal decomposition, avoid elevated temperatures. Heating can result in the formation of gaseous decomposition products, some of which may be hazardous. Do not exceed melt temperature recommendations in product literature. Purgings of hot material should be collected in small, flat, thin shapes and quenched with water to allow for rapid cooling. Do not allow product to remain in barrel at elevated temperatures for extended periods of time.

Hazardous Decomposition Products: Traces of, carbon oxides, sulfur oxides.

11. TOXICOLOGICAL INFORMATION

LD50/oral/rat:	>5000 mg/kg
LD50/dermal/rabbit:	>2000 mg/kg
Subchronic Toxicity:	No information available
Primary Irritation:	Substance does not generally irritate and is only mildly irritating to the skin
Remarks:	The toxicological data has been taken from products of similar composition
Special Studies:	Titanium Dioxide: The International Agency for Research on Cancer (IARC) has determined titanium dioxide to be a possible human carcinogen (class 2B) based on evidence in experimental animals. Rats exposed to high doses of titanium dioxide by inhalation or intratracheal instillation showed an increased incidence of lung tumors.

12. ECOLOGICAL INFORMATION

Ecotoxicity Effects:	Do not flush into surface water or sanitary sewer system.
Ecotoxicity - Invertebrate Data:	Ecological damages are not known or expected under normal use.

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products:	Where possible recycling is preferred to disposal or incineration. Dispose of in accordance with local regulations.
Contaminated Packaging:	Empty containers should be transported/delivered using a registered waste carrier for local recycling or waste disposal.
EWC waste disposal no:	702 - waste from the manufacture, formulation, supply and use of plastics, synthetic rubber and man-made fibres.

14. TRANSPORT INFORMATION

Transport Classification: Not regulated as hazardous for shipment, unless noted below, under current transportation guidelines.

DOT

ADR/RID/ADN

IMDG

ICAO

IATA-DGR

15. REGULATORY INFORMATION

This substance is classified and labelled according to Annex I of Directive 67/548/EEC, as amended.

International Inventories:

TSCA (USA):	Listed
DSL (Canada):	Listed
EINECS/ELINCS (Europe):	Listed
ENCS (Japan):	Listed
IECSC (China):	Listed
KECL (Korea):	Listed
PICCS (Philippines):	Listed
AICS (Australia):	Listed
NZIoC (New Zealand):	Listed
REACH Information:	For this product's REACH related information, please contact webinquiries@sabic-ip.com

Other Inventory Information:
A "Listed" entry above means all chemical components are on the respective inventory list and/or a qualifying exemption exists for one or more components. A "Not listed" entry above indicates one or more components is restricted from import or manufacture into that country/region. Articles are exempt from registration and are therefore not listed on the national chemical inventories.

SVHC (REACH Regulation (EC) No 1907/2006 and 453/2010, as amended):
This product does not intentionally contain SVHC chemicals except as noted below. Incidental amounts of impurities, if present, would be below the threshold limit of 0.1% by weight.

California Proposition 65:
Components in this product known to the State of California to cause cancer and/or reproductive effects, are listed below:

Chemical Name	Weight %	California Proposition 65:	
Titanium dioxide 13463-67-7	5-10	Listed: September 2, 2011	Carcinogenic. (airborne, unbound particles of respirable size)

RoHS EU Directive 2011/65/EU:
The subject product is in compliance with EU RoHS Directive 2011/65/EU. All below chemicals are not employed in the manufacture of the product: a.Cadmium and its compounds, b.Lead and its compounds, c.Mercury and its compounds, d.Hexavalent chromium compounds, e.Polybrominated biphenyls (PBBs), f.Polybrominated diphenyl ethers (PBDEs including Deca-BDE). The trace levels of heavy metals may be present as impurities within threshold limits (<0.1% for Pb, Hg, Cr VI, and <0.01% for Cd). We are disclosing this information, to the best of our knowledge, based upon data from our raw material manufacturers.

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects

Visit our public website to search, view and print Safety Data Sheets for commercial products:
http://eur.sabic-ip.com/ordeur/pages/msds/MSDSSearch.jsp?app=sabic-ip

SDS Scope:
Europe: Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Regulation (EU) No. 453/2010. This document is also applicable in other countries and regions.

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End of Safety Data Sheet