

MATERIAL SAFETY DATA SHEET



Bayer MaterialScience

Bayer MaterialScience LLC
Product Safety & Regulatory Affairs
100 Bayer Road
Pittsburgh, PA 15205-9741
USA

TRANSPORTATION EMERGENCY

CALL CHEMTREC: (800) 424-9300
INTERNATIONAL: (703) 527-3887

NON-TRANSPORTATION

Emergency Phone: Call Chemtrec
Information Phone: (800) 662-2927

1. Product and Company Identification

Product Name: MAKROLON SL SUNLIFE WHITE-B59, SMOOTH / SMOOTH
Material Number: 58095382
Chemical Family: Thermoplastic Polymer Sheet (Polycarbonate Sheet)

2. Hazards Identification

Emergency Overview

Caution: **Color:** White **Form:** solid sheets **Odor:** odourless.
Melted product is flammable and produces intense heat and dense smoke during burning. Irritating gases/fumes may be given off during burning or thermal decomposition. Contact with hot material will cause thermal burns.

Potential Health Effects

Primary Routes of Entry: Inhalation, Skin Contact, Eye Contact

Medical Conditions Aggravated by Exposure: Respiratory disorders

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE

Skin

Acute Skin

For Product: MAKROLON SL SUNLIFE WHITE-B59, SMOOTH / SMOOTH
Contact with heated material can cause thermal burns.

Ingestion

Acute Ingestion

For Product: MAKROLON SL SUNLIFE WHITE-B59, SMOOTH / SMOOTH
Ingestion is not a typical route of industrial exposure.

General Effects of Exposure

Acute Effects of Exposure

Material Name: MAKROLON SL SUNLIFE WHITE-B59,
SMOOTH / SMOOTH

Article Number: 58095382

For Product: MAKROLON SL SUNLIFE WHITE-B59, SMOOTH / SMOOTH

Gases and fumes evolved during the thermal processing or decomposition of this material may irritate the eyes, skin or respiratory tract.

Chronic Effects of Exposure

For Product: MAKROLON SL SUNLIFE WHITE-B59, SMOOTH / SMOOTH

Not expected to cause any adverse chronic health effects.

Carcinogenicity:

Titanium dioxide (Rutile) **IARC** - Overall evaluation: 2B Possibly carcinogenic to humans.

3. Composition/Information on Ingredients

Hazardous components

The following potentially hazardous ingredient(s) are used to formulate this product. As supplied, the ingredient(s) are bound in the polymer matrix. Because they are bound in the matrix, they are not expected to create any unusual hazards when handled and processed according to good manufacturing and industrial hygiene practices and the guidelines provided in this MSDS.

<u>Weight percent</u>	<u>Components</u>	<u>CAS-No.</u>
0.1 - 1%	Titanium dioxide (Rutile)	13463-67-7

4. First aid measures

Eye contact

In case of contact, flush eyes with plenty of lukewarm water.

Skin contact

Cool melted product on skin with plenty of water. Do not remove solidified product. Get medical attention if thermal burn occurs.

Inhalation

Move to fresh air in case of accidental inhalation of dust or fumes from overheating or combustion.

Ingestion

Get medical attention.

5. Firefighting measures

Suitable extinguishing media: Water fog, Dry chemical, Carbon dioxide (CO2)

Special Fire Fighting Procedures

Firefighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes.

Unusual Fire/Explosion Hazards

Toxic and irritating gases/fumes may be given off during burning or thermal decomposition.

6. Accidental release measures

Spill and Leak Procedures

If molten, allow material to cool and place into an appropriate marked container for disposal. Sweep up and shovel into suitable containers for disposal.

7. Handling and storage

Storage temperature:

maximum: 49 °C (120.2 °F)

Storage period

Containers should be tightly closed to prevent contamination with foreign materials and moisture.

Handling/Storage Precautions

Handle in accordance with good industrial hygiene and safety practices. Wash thoroughly after handling. Avoid creating dust.

Further Info on Storage Conditions

Protect equipment (e.g. storage bins, conveyors, dust collectors) with explosion vents.

8. Exposure controls/personal protection

Titanium dioxide (Rutile) (13463-67-7)

US. ACGIH Threshold Limit Values

Time Weighted Average (TWA): 10 mg/m³

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

PEL: 15 mg/m³ (Total dust.)

US. ACGIH Threshold Limit Values

Hazard Designation: Group A4 Not classifiable as a human carcinogen.

Industrial Hygiene/Ventilation Measures

General dilution and local exhaust as necessary to control airborne vapors, mists, dusts and thermal decomposition products below appropriate airborne concentration standards/guidelines, especially during cutting, grinding and high heat operations.

Respiratory protection

In the case of dust or aerosol formation use respirator with an approved filter.

Hand protection

Wear heat resistant gloves when handling molten material.

Eye protection

Safety glasses with side-shields

Skin and body protection

No special skin protection requirements during normal handling and use.

Additional Protective Measures

Employees should wash their hands and face before eating, drinking, or using tobacco products. Educate and train employees in the safe use and handling of this product. Purgings should be collected as small flat thin shapes or thin strands to allow for rapid cooling.

9. Physical and chemical properties

Form:	solid
Appearance:	sheets
Color:	White
Odor:	odourless
pH:	not applicable
Flash point:	> 450 °C (> 842 °F)
Lower explosion limit:	Not Established
Upper explosion limit:	Not Established
Vapour pressure:	not applicable
Solubility in Water:	Insoluble
Auto-ignition temperature:	> 450 °C (> 842 °F)
Decomposition temperature:	Approximately 380 °C (716 °F)
Softening point:	Begins at 70 °C (158 °F)
Bulk density:	Approximately 608.7 kg/m ³

10. Stability and reactivity

Hazardous Reactions

Hazardous polymerisation does not occur.

Stability

Stable

Materials to avoid

None known.

Conditions to avoid

None known.

Hazardous decomposition products

By Fire and Thermal Decomposition: Phenol; Carbon oxides, Hazardous decomposition products due to incomplete combustion.

11. Toxicological information

Toxicity Data for MAKROLON SL SUNLIFE WHITE-B59, SMOOTH / SMOOTH

Toxicity Note

No data available for this product.

Toxicity Data for Titanium dioxide (Rutile)

Acute oral toxicity

LD50: > 5,000 mg/kg (Rat)

Acute inhalation toxicity

LC0: > 6.82 mg/l, 4 h (Rat)

Material Name: MAKROLON SL SUNLIFE WHITE-B59,
SMOOTH / SMOOTH

Article Number: 58095382

Acute dermal toxicity

LD50: > 5,000 mg/kg (rabbit)

Skin irritation

rabbit, Exposure Time: 24 h, Non-irritating

Eye irritation

rabbit, Draize, Non-irritating

Sensitisation

dermal: non-sensitizer (Guinea pig, Maximization Test)

dermal: non-sensitizer (Human, Patch Test)

Repeated dose toxicity

28 Days, inhalation: NOAEL: 35 mg/m³, (Rat)

Mutagenicity

Genetic Toxicity in Vitro:

Ames: negative (Salmonella typhimurium, Metabolic Activation: with/without)

Genetic Toxicity in Vivo:

Drosophila SLRL test: negative (Drosophila melanogaster)

negative

Carcinogenicity

Rat, Male/Female, inhalation,

According to IARC, several rat inhalation and intratracheal installation studies using titanium dioxide have shown increases in benign and malignant lung tumors. Reviewed human exposure data did not suggest an association between occupational exposure to titanium dioxide and risk for cancer. Additionally, the IARC working group determined that, "No significant exposure to titanium dioxide is thought to occur during the use of products in which titanium dioxide is bound to other material, such as in paints."

12. Ecological information**Ecological Data for MAKROLON SL SUNLIFE WHITE-B59, SMOOTH / SMOOTH****Additional Ecotoxicological Remarks**

No data available for this product.

Ecological Data for Titanium dioxide (Rutile)**Acute and Prolonged Toxicity to Fish**

LC0: > 1,000 mg/l (Golden orfe (Leuciscus idus), 48 h)

Acute Toxicity to Aquatic Invertebrates

EC0: > 3 mg/l (Water flea (Daphnia magna))

Toxicity to Microorganisms

EC0: > 10,000 mg/l, (Pseudomonas fluorescens, 24 h)

13. Disposal considerations**Waste Disposal Method**

Waste disposal should be in accordance with existing federal, state and local environmental control laws.

14. Transport information

Land transport (DOT)
Non-Regulated

Sea transport (IMDG)
Non-Regulated

Air transport (ICAO/IATA)
Non-Regulated

15. Regulatory information

United States Federal Regulations

OSHA Hazcom Standard Rating: Non-Hazardous

US. Toxic Substances Control Act: Excluded: Article.

US. EPA CERCLA Hazardous Substances (40 CFR 302):

Components

None

SARA Section 311/312 Hazard Categories:

Non-hazardous under Section 311/312

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III
Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A):

Components

None

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III
Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required:

Components

None

US. EPA Resource Conservation and Recovery Act (RCRA) Composite List of Hazardous Wastes and Appendix VIII Hazardous Constituents (40 CFR 261)

Under RCRA, it is the responsibility of the person who generates a solid waste, as defined in 40 CFR 261.2, to determine if that waste is a hazardous waste.

State Right-To-Know Information

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

The concentrations reported below in units of parts per million (ppm) or parts per billion (ppb) are maximum values.

Massachusetts, New Jersey or Pennsylvania Right to Know Substance Lists:

Material Name: MAKROLON SL SUNLIFE WHITE-B59, SMOOTH / SMOOTH	Article Number: 58095382
--	--------------------------

<u>Weight percent</u>	<u>Components</u>	<u>CAS-No.</u>
>=1%	Bisphenol A Polycarbonate	25971-63-5
>=1%	Bisphenol A Polycarbonate	CAS# is a trade secret
>=1%	Bisphenol A Polycarbonate	CAS# is a trade secret

MA Right to Know Extraordinarily Hazardous Substance List:

<u>Weight percent</u>	<u>Components</u>	<u>CAS-No.</u>
<5 ppm	Phenol	108-95-2
<=3 ppm	Methylene Chloride	75-09-2

California Prop. 65:

Warning! This product contains chemical(s) known to the State of California to be Carcinogenic.

<u>Weight percent</u>	<u>Components</u>	<u>CAS-No.</u>
<=3 ppm	Methylene Chloride	75-09-2

16. Other information

HMIS Rating

Health	0
Flammability	1
Physical Hazard	0

0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe

* = Chronic Health Hazard

The method of hazard communication for Bayer MaterialScience LLC is comprised of Product Labels and Material Safety Data Sheets. HMIS and NFPA ratings are provided by Bayer MaterialScience LLC as a customer service.

Contact person: Product Safety Department
 Telephone: (412) 777-2835
 MSDS Number: 112000047540
 Version Date: 01/26/2013
 Report version: 1.3

This information is furnished without warranty, express or implied. This information is believed to be accurate to the best knowledge of Bayer MaterialScience LLC. The information in this MSDS relates only to the specific material designated herein. Bayer MaterialScience LLC assumes no legal responsibility for use of or reliance upon the information in this MSDS.