

SECTION 1: Identification**1.1 Product identifier**

- Trade name Radel® R-5100 BK 937 LF

1.2 Relevant identified uses of the substance or mixture and uses advised against**Uses of the Substance / Mixture**

- Plastics industry

1.3 Details of the supplier of the safety data sheet**Company**

SYENSQO SPECIALTY POLYMERS USA, LLC
4500 MCGINNIS FERRY ROAD
30005-3914, ALPHARETTA GA
USA
Tel: +1-770-7728200
Fax: +1-770-7728213
Product information:
+1-800-6214557

1.4 Emergency telephone

FOR EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CONTACT CHEMTREC (24-Hour Number): +1-800-424-9300 within the United States and Canada, or +1-703-527-3887 for international collect calls.

SECTION 2: Hazards identification

Although OSHA has not adopted the environmental portion of the GHS regulations, this document may include information on environmental effects.

2.1 Classification of the substance or mixture**HCS 2012 (29 CFR 1910.1200)**

Combustible dust:

2.2 Label elements**HCS 2012 (29 CFR 1910.1200)****Signal Word**

- Warning

Hazard Statements

- May form combustible dust concentrations in air.



US (Z8)
com



2.3 Other hazards which do not result in classification

- This product as shipped is not a combustible dust, however if small particles are generated during further processing, handling or by other means, combustible dust concentrations may form in the air.

SECTION 3: Composition/information on ingredients**3.1 Substance**

- Not applicable, this product is a mixture.

3.2 Mixture**Hazardous Ingredients and Impurities**

Chemical name	Identification numberCAS No./Unique ID	Concentration [%]
Zinc oxide (ZnO)	1314-13-2	>= 0.1 - < 0.3
Carbon Black	1333-86-4	>= 0.1 - < 0.3

*****The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

**Company reference for Substance without CAS No.

Non Hazardous Ingredients and Impurities

Chemical name	Identification numberCAS No./Unique ID	Concentration [%]
Polyphenylsulfone	25608-64-4	>= 98

*****The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

**Company reference for Substance without CAS No.

SECTION 4: First aid measures**4.1 Description of first-aid measures****In case of inhalation**

- Remove to fresh air.
- If symptoms persist, call a physician.

In case of skin contact

- Cool skin rapidly with cold water after contact with hot polymer.
- Do not peel polymer from the skin.
- Obtain medical attention.

In case of eye contact

- Flush eyes with running water for several minutes, while keeping the eyelids wide open.
- If eye irritation persists, consult a specialist.

In case of ingestion

- Never give anything by mouth to an unconscious person.
- If a large amount is swallowed, get medical attention.



US (Z8)
com



4.2 Most important symptoms and effects, both acute and delayed**In case of inhalation****Effects**

- Mechanical irritation from the particulates generated by the product.
- Thermal decomposition can lead to release of hazardous gases and vapors

In case of skin contact**Effects**

- Mechanical irritation from the particulates generated by the product.

In case of eye contact**Effects**

- Mechanical irritation from the particulates generated by the product.

In case of ingestion**Effects**

- Low ingestion hazard.

4.3 Indication of any immediate medical attention and special treatment needed

- no data available

SECTION 5: Firefighting measures**Flash point**

Not applicable

Autoignition temperature

No data available

Flammability / Explosive limit

No data available

5.1 Extinguishing media**Suitable extinguishing media**

- powder
- Foam
- Water
- Water spray
- Carbon dioxide (CO2)

Unsuitable extinguishing media

- None known.

5.2 Special hazards arising from the substance or mixture

- Combustible material
- In a fire, the polymer melts, producing droplets which may propagate fire.
- Once started, a fire will tend to self extinguish (see section 9).
- Heating can release hazardous gases.

5.3 Advice for firefighters**Special protective equipment for fire-fighters**

In the event of fire, wear self-contained breathing apparatus.



US (Z8)
com



- Fire fighters must wear fire resistant personnel protective equipment.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel

- Refer to protective measures listed in sections 7 and 8.

Advice for emergency responders

- Sweep up to prevent slipping hazard.
- Avoid dust formation.
- Refer to protective measures listed in sections 7 and 8.

6.2 Environmental precautions

- Should not be released into the environment.
- The product should not be allowed to enter drains, water courses or the soil.
- In case of accidental release or spill, immediately notify the appropriate authorities if required by Federal, State/Provincial and local laws and regulations.

6.3 Methods and materials for containment and cleaning up

- Sweep up and shovel into suitable containers for disposal.
- Avoid dust formation.
- Keep in properly labeled containers.
- Keep in suitable, closed containers for disposal.
- Treat recovered material as described in the section "Disposal considerations".

6.4 Reference to other sections

- Refer to protective measures listed in sections 7 and 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Take measures to prevent the build up of electrostatic charge.
- Ensure all equipment is electrically grounded before beginning transfer operations.
- Use only equipment and materials which are compatible with the product.
- To avoid thermal decomposition, do not overheat.

Hygiene measures

- Wash hands before breaks and at the end of workday.
- Handle in accordance with good industrial hygiene and safety practice.

Dust explosion class

- St1

7.2 Conditions for safe storage, including any incompatibilities



US (Z8)
com



Technical measures/Storage conditions

- Keep container tightly closed.
- Keep away from heat and sources of ignition.
- Keep away from open flames, hot surfaces and sources of ignition.
- To avoid thermal decomposition, do not overheat.
- Avoid dust formation.
- Do not smoke.
- Refer to protective measures listed in sections 7 and 8.

7.3 Specific end use(s)

- For further information, please contact:
- Supplier

SECTION 8: Exposure controls/personal protection

Introductory Remarks: These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers.

8.1 Control parameters**Components with workplace occupational exposure limits**

Components	Value type	Value	Basis
Particulates not otherwise regulated			National Institute for Occupational Safety and Health Includes all inert or nuisance dusts, whether mineral, inorganic, not listed specifically in 1910.1000., See Appendix D - Substances with No Established RELs
particulates not otherwise regulated	TWA	15 mg/m3	Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants Form of exposure : total dust All inert or nuisance dusts, whether mineral, inorganic, or organic, not listed specifically by substance name are covered by the Particulates Not Otherwise Regulated (PNOR) limit which is the same as the inert or nuisance dust limit of Table Z-3.
particulates not otherwise regulated	TWA	5 mg/m3	Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants Form of exposure : respirable fraction All inert or nuisance dusts, whether mineral, inorganic, or organic, not listed specifically by substance name are covered by the Particulates Not Otherwise Regulated (PNOR) limit which is the same as the inert or nuisance dust limit of Table Z-3.
Particles (insoluble or poorly soluble) not otherwise specified	TWA	10 mg/m3	American Conference of Governmental Industrial Hygienists Form of exposure : Inhalable particulate matter
Particles (insoluble or poorly soluble) not otherwise specified	TWA	3 mg/m3	American Conference of Governmental Industrial Hygienists Form of exposure : Respirable particulate matter
Carbon Black	TWA	3.5 mg/m3	National Institute for Occupational Safety and Health
Carbon Black	TWA	3.5 mg/m3	Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants

Carbon Black	TWA	0.1 mg/m ³	National Institute for Occupational Safety and Health
Potential Occupational Carcinogen Expressed as :PAHs			
Carbon Black	TWA	3 mg/m ³	American Conference of Governmental Industrial Hygienists
Form of exposure : Inhalable particulate matter			

NIOSH IDLH (Immediately Dangerous to Life or Health Concentrations)

Components	CAS-No.	Concentration
Zinc oxide (ZnO)	1314-13-2	500 mg/m ³
Carbon Black	1333-86-4	1750 mg/m ³

8.2 Exposure controls**Control measures****Engineering measures**

- Provide local ventilation appropriate to the product decomposition risk (see section 10).
- Provide appropriate exhaust ventilation at places where dust is formed.
- Refer to protective measures listed in sections 7 and 8.

Individual protection measures**Respiratory protection**

- When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
- Use only respiratory protection that conforms to international/ national standards.
- Use NIOSH approved respiratory protection.

Hand protection

- When handling hot material, use heat resistant gloves.

Eye protection

- Safety glasses with side-shields
- Dust proof goggles, if dusty.

Skin and body protection

- Long sleeved clothing

Hygiene measures

- Wash hands before breaks and at the end of workday.
- Handle in accordance with good industrial hygiene and safety practice.

Protective measures

- When using do not eat, drink or smoke.

SECTION 9: Physical and chemical properties

Physical and Chemical properties here represent typical properties of this product. Contact the business area using the Product information phone number in Section 1 for its exact specifications.

9.1 Information on basic physical and chemical properties**Physical state**

solid

Form

pellets

Color

black

Odor

odorless

US (Z8)
com

<u>Odor Threshold</u>	No data available
<u>Melting point/freezing point</u>	<u>Softening point</u> : 428 °F (220 °C)
<u>Initial boiling point and boiling range</u>	<u>Boiling point/boiling range</u> : Not applicable
<u>Flammability (solid, gas)</u>	May form combustible dust concentrations in air., The product is not flammable.
<u>Flammability (liquids)</u>	No data available
<u>Flammability / Explosive limit</u>	No data available
<u>Flash point</u>	Not applicable
<u>Autoignition temperature</u>	No data available
<u>Decomposition temperature</u>	> 806 °F (430 °C) Extended period of exposure (ca. 1 hour).

<u>pH</u>	Not applicable
<u>Viscosity</u>	No data available
<u>Solubility</u>	<u>Water solubility</u> : negligible

<u>Partition coefficient: n-octanol/water</u>	Not applicable
<u>Vapor pressure</u>	Not applicable
<u>Density</u>	No data available
<u>Relative density</u>	No data available
<u>Relative vapor density</u>	Not applicable
<u>Particle characteristics</u>	No data available
<u>Evaporation rate (Butylacetate = 1)</u>	No data available

9.2 Other information

<u>Dust deflagration index (Kst)</u>	34 m.bar/s
<u>Dust explosion constant</u>	St1
<u>Minimum ignition energy</u>	300 - 1,000 mJ

SECTION 10: Stability and reactivity**10.1 Reactivity**

- No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

- Stable under normal conditions.

10.3 Possibility of hazardous reactionsUS (Z8)
com

- No dangerous reaction known under conditions of normal use.

polymerization

- Hazardous polymerization does not occur.

10.4 Conditions to avoid

- Heat, flames and sparks.
- To avoid thermal decomposition, do not overheat.
- Avoid dust formation.
- The normal temperature for processing this resin exceeds the decomposition and/or ignition temperature of some other polymeric resins, such as polyacetal, polyvinyl chloride (PVC), polypropylene, etc. If PVC or any other resin with a decomposition temperature below 371°C / 700°F is molded or handled in your equipment, these materials can rapidly decompose and/or react with this resin at the temperatures used to process this resin. Inadvertent contamination of this resin with these materials from the material handling system or other equipment can result in a rapid, possibly violent release of decomposition fumes, when the contaminated material is brought to processing temperature. To avoid, thoroughly clean molding and other processing equipment prior to changeover and prevent cross contamination of material handling systems.

10.5 Incompatible materials

- Polymeric resins

10.6 Hazardous decomposition products

- Carbon monoxide
- Sulfur oxides
- Hydrocarbons
- The release of other hazardous decomposition products is possible.

SECTION 11: Toxicological information**11.1 Information on toxicological effects****Acute toxicity**

Acute oral toxicity	No data available
Acute inhalation toxicity	No data available

Acute dermal toxicity	No data available
Acute toxicity (other routes of administration)	No data available

<u>Skin corrosion/irritation</u>	No data available
---	-------------------

<u>Serious eye damage/eye irritation</u>	No data available
---	-------------------

<u>Respiratory or skin sensitization</u>	No data available
---	-------------------

Mutagenicity

Genotoxicity in vitro	No data available
-----------------------	-------------------

Genotoxicity in vivo	No data available
----------------------	-------------------

<u>Carcinogenicity</u>	Dust causes lung tumors in rats. Lung tumors observed in rat following long-term inhalation exposure to poorly soluble particles of low toxicity are the result of a species-specific mechanism known as "lung overload". The formation of tumors is not observed in other species under similar exposure conditions and is considered not predictive of the effects in humans. Not classifiable as a human carcinogen. Note: IARC Classification: Group 2B
-------------------------------	--

US (Z8)
com

Components	CAS-No.	Rating	Basis
Carbon Black	1333-86-4	Group 2B: Possibly carcinogenic to humans	IARC

This product does not contain any ingredient designated as probable or suspected human carcinogens by:

NTP
OSHA

Toxicity for reproduction and development

Toxicity to reproduction / fertility No data available

Developmental Toxicity/Teratogenicity No data available

STOT

STOT-single exposure No data available

STOT-repeated exposure No data available

Experience with human exposure No data available

CMR effects

Carcinogenicity Not classified as a carcinogen according to GHS criteria: the mechanism or mode of action of tumour formation is considered not relevant for humans. The product is not considered to be carcinogenic.

Aspiration toxicity No data available

Further information Because the components are encapsulated in the resin and may not be bioavailable in the body, they may not exert the above mentioned health effects. Description of possible hazardous to health effects is based on experience and/or toxicological characteristics of several ingredients.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic Compartment

Acute toxicity to fish

The mixture is considered not hazardous to fish as analytical monitoring data show that components hazardous for the environment are not released in quantities sufficient to exert adverse acute effects on fish.
No toxicity at the limit of solubility.
Unpublished internal reports
Expert judgment

Acute toxicity to daphnia and other aquatic invertebrates

The mixture is considered not hazardous to aquatic invertebrates as analytical monitoring data show that components hazardous for the environment are not released in quantities sufficient to exert adverse acute effects on aquatic invertebrates.
No toxicity at the limit of solubility.
Unpublished internal reports
Expert judgment



US (Z8)
com



Toxicity to aquatic plants

The mixture is considered not hazardous to aquatic plants as analytical monitoring data show that components hazardous for the environment are not released in quantities sufficient to exert adverse acute effects on aquatic plants. No toxicity at the limit of solubility.
Unpublished internal reports
Expert judgment

Toxicity to microorganisms

No data available

Chronic toxicity to fish

No data available

Chronic toxicity to daphnia and other aquatic invertebrates

No data available

12.2 Persistence and degradability**Abiotic degradation**

No data available

Physical- and photo-chemical elimination

No data available

Biodegradation

No data available

12.3 Bioaccumulative potential**Partition coefficient: n-octanol/water**

No data available

Bioconcentration factor (BCF)

No data available

12.4 Mobility in soil**Adsorption potential (Koc)**

No data available

Known distribution to environmental compartments

No data available

12.5 Results of PBT and vPvB assessment

No data available

12.6 Other adverse effects**Ecotoxicity assessment****Short-term (acute) aquatic hazard**

No toxicity at the limit of solubility.

Long-term (chronic) aquatic hazard

Not classified due to data which are conclusive although insufficient for classification.

SECTION 13: Disposal considerations**13.1 Waste treatment methods****Product Disposal**

- In accordance with local and national regulations.
- Waste characterizations and compliance with applicable laws and regulations are the responsibility of the waste generator.
- Must be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities.
- Can be landfilled or incinerated, when in compliance with local regulations.

Do not dump into any sewers, on the ground, or into any body of water. All disposal methods must be in compliance with local regulations.

US (Z8)
com



all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations.

Advice on cleaning and disposal of packaging

- Empty containers.
- Dispose of as unused product.
- For unused and uncontaminated product, the preferred options include sending to a licensed, permitted: recycler, reclaimer, incinerator or other thermal destruction device or industrial landfill.

SECTION 14: Transport information**49 CFR**

not regulated

TDG

not regulated

NOM

not regulated

IMDG

not regulated

IATA

not regulated

Note: The above regulatory prescriptions are those valid on the date of publication of this sheet. Given the possible evolution of transportation regulations for hazardous materials, it would be advisable to check their validity with your sales office.

SECTION 15: Regulatory information**15.1 Notification status**

Inventory Information	Status
United States TSCA Inventory	- All substances listed as active on the TSCA inventory
Canadian Domestic Substances List (DSL)	- Listed on Inventory
Australian Inventory of Industrial Chemicals (AIIC)	- Listed on Inventory
Japan. CSCL - Inventory of Existing and New Chemical Substances	- Listed on Inventory
Korea. Korean Existing Chemicals Inventory (KECI)	- Listed on Inventory
China. Inventory of Existing Chemical Substances in China (IECSC)	- Listed on Inventory
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	- Listed on Inventory
EU. European Registration, Evaluation, Authorization and Restriction of Chemical (REACH)	- When purchased from a Syensqo legal entity based in the EEA ("European Economic Area"), this product is compliant with the registration provisions of the REACH Regulation (EC) No. 1907/2006 as all its components



US (Z8)
com



either excluded, exempt, and/or registered. When purchased from a legal entity outside of the EEA, please contact your local representative for additional information.

15.2 Federal Regulations

US. EPA EPCRA SARA Title III

SARA HAZARD DESIGNATION SECTIONS 311/312 (40 CFR 370)

Combustible dust	Yes
------------------	-----

The categories not mentioned are not relevant for the product.

Section 313 Toxic Chemicals (40 CFR 372.65)

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Section 302 Emergency Planning Extremely Hazardous Substance Threshold Planning Quantity (40 CFR 355)

This material does not contain any components with a section 302 EHS TPQ.

Section 302 Emergency Planning Extremely Hazardous Substance Reportable Quantity (40 CFR 355)

This material does not contain any components with a SARA 302 RQ.

Section 304 Emergency Release Notification Reportable Quantity (40 CFR 355)

This material does not contain any components with a section 304 EHS RQ.

US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)

This material does not contain any components with a CERCLA RQ.

15.3 State Regulations

- no data available

SECTION 16: Other information

Further information

- Distribute new edition to clients

Date Prepared: 10/08/2025

Key or legend to abbreviations and acronyms used in the safety data sheet

- PEL: Permissible exposure limit
- TWA: 8-hour, time-weighted average
- ACGIH: American Conference of Governmental Industrial Hygienists
- OSHA: Occupational Safety and Health Administration
- NTP: National Toxicology Program
- IARC: International Agency for Research on Cancer
- NIOSH: National Institute for Occupational Safety and Health
- ADR: European Agreement on International Carriage of Dangerous Goods by Road.
- ADN: European Agreement on the International Carriage of Dangerous Goods by Inland

Waterways.

RID: European Agreement concerning the International Carriage of Dangerous Goods

US (Z8)
com



- IATA:	International Air Transport Association.
- ICAO-TI:	Technical Specification for Safe Transport of Dangerous Goods by Air.
- IMDG:	International Maritime Dangerous Goods.
- TWA:	Time weighted average
- ATE:	Estimated value of acute toxicity
- EC:	European Community number
- CAS:	Chemical Abstracts Service.
- LD50:	Substance that causes 50% (half) death in the test animals group (Median Fatal Dose).
- LC50:	Substance concentration causing 50% (half) death in the test animals group.
- EC50:	Effective Concentration of the substance causing the maximum of 50%.
- PBT:	Persistent, Bioaccumulative and Toxic substance.
- vPvB:	Very Persistent and Very Bioaccumulative.
- SEA:	Classification, labeling, packaging regulation
- DNEL:	Derived No Effect Level
- PNEC:	Predicted No Effect Concentration
- STOT:	Specific Target Organ Toxicity

Not all acronyms listed above are referenced in this SDS.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. Such information is only given as a guidance to help the user handle, use, process, store, transport, dispose and release the product in satisfactory safety conditions and is not to be considered as a warranty or quality specification. The information exclusively relates to the designated product in its unaltered state. Safety and health hazards may change if such product is used in combination with other materials or in any other manufacturing process. Users are responsible for compliance with all regulations linked to product related activities, and to use the products in accordance with technical instructions given by Syensqo, if any.



US (Z8)
com

