



Safety Data Sheet: QUORAL® BARRIER RESIN (BR)

Date of issue: June, 2015

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1. Identification of the Substance, Application and the Company

Substance: Quoral® BR in Various Grades

Application: Functional Polyolefins for the Production of extrusion blow molded HDPE plastic containers

Company: BP Polymers, LLC

3972 Barranca Parkway, #J468

Irvine, CA 92606

O: 949-380-1611; F: 949-855-1519

www.bppolymers.com

Chemical families: Polyamide 6 and modified polyethylene.

2. Hazards Identification

Emergency Overview

Color: white

Physical state: solid

Form: pellets

Odor: none

According to Regulation 2012 OSHA Hazard Communication Standard: 26 CFR Part 1910.1200

Classification of the Product:

No need for classification according to the GHS criteria for this product.

Label Elements:

The product does not require a hazard warning label in accordance with GHS criteria.

Supplemental Information:

Processing may release vapors and/or fumes which cause eye, skin and respiratory tract irritation.

Ingestion may cause gastric disturbances.

3. Composition/Information on Ingredients

According to Regulation 2012 OSHA Hazard Communication Standard: 29 CFR Part 1910.1200

This product does not contain any components classified as hazardous under the referenced regulation.



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According to Regulation 1994 OSHA Hazard Communication Standard: 29 CFR Part 1910.1200.

This product is not regarded a hazardous under current OSHA Hazard Communication standard; CFR 29 Part 1910.1200.

4. First-aid Measures

Description of first aid measures:

CONTACT WITH THE HOT MELT: Cool immediately with plenty of water. Do not remove product crusts which may have formed neither forcibly nor by applying any solvents to the skin involved. In order to obtain medical care for possible burns and for a smooth cleansing of the skin, seek medical advice immediately.

Most important symptoms and effects, both acute and delayed:

Symptoms: No significant reaction of the human body to the product known.

Hazards: No hazard is expected under intended use and appropriate handling.

5. Fire-fighting Measures

Fire extinguishing media: water spray, extinguishing powder, CO₂, foam, or dry powder. Fire fighters must wear self-contained breathing apparatus.

Special dangers: at temperatures over 280°C the following products are released = CO, CO₂, and H₂O.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures:

No special precautions necessary.

Environmental precautions:

No special precautions necessary.

Methods and material for containment and cleaning up:

Granules: slip hazard! Take up mechanically.

7. Handling and Storage

Precautions for safe handling:

Provide good ventilation and/or local exhaust systems; the limit values cited under Section 8 should not be exceeded. Dust must be removed by effective exhaust ventilation. During regranulation avoid formation of dust.

Conditions for safe storage, including any incompatibilities:

Store Quoral® in a cool, dry place – protect especially against moisture and heat.



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8. Exposure Controls/Personal Protection

The components of this product have no established Airborne Exposure Guidelines.

Provide good ventilation for dust and vapor evacuation at the extrusion units.

The regulations for the substances listed below must be observed when processing this product, particularly if processing takes place at elevated temperatures. In our experience the provision of effective fresh-air and exhaust ventilation equipment at the points where vapors may be generated will ensure compliance with the tolerance limits quoted below.

Respiratory protection: In case of dust formation use NIOSH respiratory protection equipment appropriate to the material and/or its components. Observe respirator use limitations specified by NIOSH or the manufacturer. Respiratory protection programs must comply with US 29 CFR Sect. 1910.134.

Hand protection: Protective gloves of leather, contaminated or damaged gloves should be replaced.

Eye protection: Protective goggles with side shield or tightly fitting protective goggles.

Body protection: For skin covering working clothes wear dust-proof overalls if large quantities of dust are generated.

Protection and hygienic measures: avoid inhaling vapors and dust. At the end of work, wash hands and face. When using Quoral® do not eat, drink or smoke.

9. Physical and Chemical Properties

Form: Granules.

Color: White.

Odor: None.

Melting range: 90-222°C (Kofler method)

Density: granule 1 = approx. 1.12 – 1.15g/cm³ at 20°C; granule 2 = approx. 0.92 g/cm³ at 20°C.

Bulk density: approx. 700 kg/m³.

Vapor pressure: N/A.

Viscosity: Value not determined.

Solubility in water: Insoluble.

PH value: N/A.

Flash-ignition temperature: > 400°C.

Self-ignition temperature: >450°C.

Explosive limits: N/A.



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10. Stability and Reactivity

Thermal decomposition: Decomposition begins at 300°C. Quoral® is stable at room temperature.

Fumes caused by overheating during improper processing or by burning may be injurious to health.

Materials to avoid: none known.

Hazardous decomposition products: smoldering or incomplete combustion leads to the formation of toxic gas mixtures consisting mainly of CO, CO₂ and nitrogen oxides; amines, nitriles, aliphatic and aromatic hydrocarbons, aldehydes, ketones, acids, ε-caprolactam ammonia and hydrogen cyanide are also formed.

Hazardous reactions: no hazardous reactions observed.

11. Toxicological Information

Primary routes of exposure:

Routes of entry of solids and liquids are ingestion and exhalation, but may include eye or skin contact. Routes of entry for gases included inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute toxicity/effects:

Oral:

Acute toxicity estimate > 5,000mg/kg.

Inhalation/corrosion:

Under recommended processing conditions small amounts of H₂O, ε-caprolactam, CO₂, CO, ketones and acids; also small amounts aldehydes may be emitted.

Chronic toxicity/effects:

According to our experience and information, the product has no harmful effects on health if properly handled.

Symptoms of Exposure:

No significant reaction of the human body to the product known.

12. Ecological Information

The product is practically insoluble in water. In view of its consistency and insolubility in water, no ecological problems are to be expected if the product is properly handled. This product is not readily biodegradable.



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13. Disposal Considerations

The product is suitable for mechanical recycling. After appropriate treatment it can be remelted and reprocessed into new molded articles. Mechanical recycling is only possible if the material has been selectively retrieved and carefully segregated according to type.

Quoral® may only be transported to suitable incinerator with reduced non-air emissions observing local official regulations.

It may be disposed of together with household refuse if local official regulations are observed.

14. Transport Information

UN: not classified as dangerous goods under transportation regulations.

Declaration for land cargo: not classified as dangerous goods under transportation regulations.

Declaration for sea cargo (IMDG): not classified as dangerous goods under transportation regulations.

Declaration for air cargo: not classified as dangerous goods under transportation regulations.

US DOT : not regulated.

15. Regulatory Information

United States - Federal Regulations:

SARA Title III – Section 201 Extremely Hazardous Chemicals:

The components in this product are either not SARA Section 302 regulated or regulated but present in negligible concentrations.

SARA Title III – Section 311/312 Hazard Categories:

No SARA Hazards.

SARA Title III – Section 313 Toxic Chemicals:

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.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) – Reportable Quantity (RQ):

The components in this product are either not CERCLA regulated, regulated but present in negligible concentrations, or regulated with no assigned reportable quantity.

EPCRA 311/312 (Hazard categories): Not hazardous.



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NFPA Hazard Codes:

Health: 1 Fire: 1 Reactivity: 0 Special:

HMS III Rating:

Health: 1 Flammability: 1 Physical Hazard: 0

16. Other Information

This Safety Data Sheet is valid for the following grades of Quoral® BR:

BR50

BR60

BR70

BR75

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements.

The above details do not imply any guarantee concerning composition, properties or performance.

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This revision supersedes all previous revisions, versions and editions.

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