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1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Product Name **BEPD**

Chemical Name 2-Butyl-2-ethylpropanediol CAS No 115-84-4

Other means of identification

Pure substance/mixture Substance

Recommended use of the chemical and restrictions on use

Application Raw material: Coatings.

Uses advised against Not identified.

Details of the supplier of the safety data sheet

Manufacturer Address
Perstorp Oxo Belgium AB
Durmakker 33
Havennymer 8768A
BE-9940 Evergem, Belgium
Tel. +32 9 257 17 17
Fax +32 9 253 26 78
www.perstorp.com

E-mail address productinfo@perstorp.com

Emergency telephone number

Canada (+)1 866 519 4752 (contract no: 334101)

2. HAZARDS IDENTIFICATION

Hazards description

Eye contact: Causes severe eye irritation. Risk of burns (in case the product is delivered in molten form).

Classification of the substance or mixture

Acute toxicity - Oral Category 5 - (H303)
Serious eye damage/eye irritation Category 2A - (H319)

Label elements

Symbols/Pictograms



Signal word

Warning

Hazard statements

Not applicable

Precautionary statements

P280 - Wear protective gloves and eye/face protection

P264 - Wash hands thoroughly after handling

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P337 + P313 - If eye irritation persists: Get medical advice/attention

Contains: 2-Butyl-2-ethylpropanediol

Other hazards

May be harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS**Substance**

Chemical Name	CAS No	Weight-%
2-Butyl-2-ethylpropanediol	115-84-4	90-100

4. FIRST AID MEASURES**Description of first aid measures**

General advice	Emergency eyewash facilities must be located in the vicinity of where the product is handled.
Inhalation	Remove to fresh air. Rinse mouth with water. If irritation persists get medical advice/attention.
Skin contact	In contact with molten product immediately flush with cold water for at least 10 minutes. Do not pull solidified product off the skin. In case of burn injury immediately get medical attention.
Eye contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Use lukewarm water if possible. Keep eye wide open while rinsing. If eye irritation persists: Get medical advice/attention. After contact with the molten/hot product, cool rapidly with cold water. Seek immediate medical attention/advice.
Ingestion	Clean mouth with water and drink afterwards plenty of water. If a large quantity has been ingested or you feel unwell, get medical advice/attention.
Self-protection of the first aider	Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Eye contact: Causes severe irritation (tears, blurred vision and redness). Risk of burns (in case the product is delivered in molten form).

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE-FIGHTING MEASURES**Suitable extinguishing media**

All types of extinguishing media are suitable. Use fire extinguishing methods suitable to surrounding conditions.

Unsuitable extinguishing media

High volume water jet.

Specific hazards arising from the chemical

Thermal decomposition can lead to release of irritating and toxic gases and vapours.

Hazardous combustion products

Carbon monoxide (CO), Carbon dioxide (CO₂).

Protective equipment and precautions for firefighters

Wear self-contained breathing apparatus and protective suit. Use personal protective equipment as required.

Additional information

Prevent fire extinguishing water from contaminating surface water or the ground water system.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions

Keep unprotected persons away from molten/hot product if released. Wear protective gloves and protective clothing, Tight sealing safety goggles, Rubber boots.

Environmental precautions

Minimize the area spreading and cover the drains. Do not allow into any sewer, on the ground or into any body of water. Local authorities should be advised if significant spillages cannot be contained. See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment

If molten/hot product is released, pick up mechanically when cooled.

Methods for cleaning up

Clean contaminated surface thoroughly. Use: Water (with cleaning agent).

Reference to other sections

See Section 7,8,13 for more information.

7. HANDLING AND STORAGE

Precautions for safe handling

Use personal protection recommended in Section 8.

General Hygiene Considerations

Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

No special measures are necessary.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Users are advised to consider national Occupational Exposure Limits or other equivalent values (if existing)

Appropriate engineering controls

Eyewash stations.

Individual protection measures, such as personal protective equipment

Eye/face protection	Tight sealing safety goggles
Hand Protection	Wear protective gloves. Butyl rubber. Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves.
Skin and body protection	Normal work clothes for the chemical industry (long legs and sleeves). If any risk of getting in contact with hot product - use heat-resistant protective clothing.
Respiratory protection	None under normal use conditions. In case of insufficient ventilation, wear suitable respiratory equipment.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance

Solid or Melt
white

Odour

Mild

Odour threshold

No information available

Property	Value	Remarks • Method
pH		Not applicable
Melting point / freezing point	41 °C / 106 °F	OECD 102
Boiling point / boiling range	264 °C / 507 °F	OECD Test No. 103: Boiling Point
Flash point	136 °C / 277 °F	CC (closed cup) Regulation (EC) No. 440/2008, Annex, A.9
Evaporation rate		No information available
Flammability (solid, gas)	Not flammable	EU Method A.10
Explosive limits		
Upper explosive limits		Not applicable
Lower explosive limits		Not applicable
Vapour pressure	0.08 Pa	Calculation method SPARC, MPBPWIN (v1.43) @25°C
Vapour density		No information available
Relative density	0.97	ISO 1183-1 @20 °C
Water solubility	8.8 g/L	OECD Test No. 105: Water Solubility @20°C
Solubility(ies)		No information available
Partition coefficient	2.2	log Pow @25°C OECD Test No. 117: Partition Coefficient (n-octanol/water), HPLC Method
Autoignition temperature		Not applicable
Decomposition temperature		Not determined
Kinematic viscosity		No information available
Dynamic viscosity		Not determined
Explosive properties	Not explosive.	
Oxidising properties	Not oxidizing.	
Density		No information available
Bulk density		No information available

Other Information

No information available

10. STABILITY AND REACTIVITY

Reactivity

There exists no specific test data for this product. For further information, see the subsequent subsections of this chapter.

Chemical stability

Stable under normal conditions.

Possibility of Hazardous Reactions

None under normal use conditions Reacts with: Strong oxidising agents

Conditions to avoid

None under normal use conditions.

Incompatible materials

Incompatible with oxidising agents.

Hazardous decomposition products

Thermal decomposition can lead to release of irritating and toxic gases and vapours.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Dermal. Inhalation.

Symptoms related to the physical, chemical and toxicological characteristics

See Section 4 for more information.

Numerical measures of toxicity

Acute toxicity

May be harmful if swallowed.

2-Butyl-2-ethylpropanediol (115-84-4)				
Method	Species	Exposure route	Effective dose	Remarks
Regulation (EC) No. 440/2008, Annex, B.1 bis	Rat	Oral	2900	mg/kg LD50 (lethal dose)
OECD Test No. 402: Acute Dermal Toxicity	Rat	Dermal	2000	mg/kg LD0

Skin corrosion/irritation

Non-irritating to the skin.

2-Butyl-2-ethylpropanediol (115-84-4)			
Method	Species	Exposure route	Results:
Regulation (EC) No. 440/2008, Annex, B.4	Rabbit	Dermal	Non-irritant
OECD Test No. 404: Acute Dermal Irritation/Corrosion	Rabbit	Dermal	Non-irritant

Serious eye damage/eye irritation

Causes serious eye irritation.

2-Butyl-2-ethylpropanediol (115-84-4)			
Method	Species	Exposure route	Results:
Regulation (EC) No. 440/2008, Annex, B.5	Rabbit	Eye	Irritating to eyes

Respiratory or skin sensitisation

No sensitising effects known.

2-Butyl-2-ethylpropanediol (115-84-4)			
Method	Species	Exposure route	Results:
Regulation (EC) No. 440/2008, Annex, B.6	Guinea pig	Skin	Not a skin sensitiser

Germ cell mutagenicity

Not mutagenic.

2-Butyl-2-ethylpropanediol (115-84-4)			
Method	Species	Exposure route	Results:
OECD Test No. 476: In vitro Mammalian Cell Gene Mutation Test	in vitro		Negative
OECD Test No. 471: Bacterial Reverse Mutation Test	in vitro		Negative
OECD Test No. 474: Mammalian Erythrocyte Micronucleus Test	Mouse		Negative

Carcinogenicity

No information available.

Reproductive toxicity

This product does not contain any known or suspected reproductive hazards.

2-Butyl-2-ethylpropanediol (115-84-4)				
Method	Species	Exposure route	Effective dose	Remarks
OECD Test No. 414: Pre-natal Development Toxicity Study	Rat	Oral	1000	mg/kg bw/d NOAEL

STOT - single exposure No information available

STOT - repeated exposure

2-Butyl-2-ethylpropanediol (115-84-4)				
Method	Species	Exposure route	Effective dose	Remarks
OECD Test No. 408:	Rat female	Oral	150	mg/kg bw/d NOAEL

Repeated Dose 90-Day Oral Toxicity Study in Rodents				
OECD Test No. 408: Repeated Dose 90-Day Oral Toxicity Study in Rodents	Rat male	Oral	15	mg/kg bw/d NOAEL
OECD Test No. 407: Repeated Dose 28-day Oral Toxicity Study in Rodents	Rat	Oral	1000	mg/kg bw/d NOAEL

Aspiration hazard

No information available.

12. ECOLOGICAL INFORMATION**Toxicity**

Low toxicity to aquatic organisms.

2-Butyl-2-ethylpropanediol (115-84-4)					
Method	Species	Exposure route	Effective dose	Exposure time	Remarks
OECD Test No. 203: Fish, Acute Toxicity Test	Oncorhynchus mykiss (rainbow trout)	Freshwater	>100	96h	mg/l LC50 (lethal concentration)
OECD Test No. 202: Daphnia sp. Acute Immobilization Test	Daphnia magna	Freshwater	>100	48h	mg/l EC50 (effective concentration)
OECD Test No. 201: Freshwater Algae and Cyanobacteria, Growth Inhibition Test	Selenastrum capricornutum	Freshwater	>100	72h	mg/l ErC50
OECD Test No. 209: Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation)	Bacteria toxicity	Freshwater	650	3h	mg/l EC50 (effective concentration)
OECD Test No. 201: Freshwater Algae and Cyanobacteria, Growth Inhibition Test	Selenastrum capricornutum	Freshwater	45	72h	mg/l NOEC

Persistence and degradability

Not readily biodegradable. The substance is inherently biodegradable and therefore has no potential to persist.

2-Butyl-2-ethylpropanediol (115-84-4)			
Method	Value	Exposure time	Results:
OECD Test No. 301F: Ready Biodegradability: Manometric Respirometry Test (TG 301 F)	<7%	28d	Not readily biodegradable
OECD Test No. 302B: Inherent Biodegradability: Zahn-Wellens/ EVPA Test	79%	28d	The substance is inherently biodegradable and therefore has no potential to persist.
OECD Test No. 111: Hydrolysis as a Function of pH	>365 days		Hydrolysis , t1/2

Bioaccumulative potential

Based on the partition coefficients of the ingredients the product is not expected to bioaccumulate in organisms.

Chemical Name	Partition coefficient	Bioconcentration factor (BCF)
2-Butyl-2-ethylpropanediol	2.2	

Mobility in soil

The substance is not expected to adsorb to a high degree to suspended solids and sediment based upon the log Pow.

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Disposal methods

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging

Contaminated packaging materials must be disposed of in the same manner as the product. Thoroughly emptied and clean packaging may be recycled.

14. TRANSPORT INFORMATION

TDG Road transport	Not regulated
RID Rail transport	Not regulated
IMDG Sea transport	Not regulated
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	No information available
IATA Air transport	Not regulated

15. REGULATORY INFORMATION

International Regulations

Not applicable.

National regulations

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

16. OTHER INFORMATION

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

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Revision Note	No information available

Disclaimer

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. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet