


PB1300 DLC®-A

1: Identification

Product identifier:	PB1300 DLC®-A	
Other means of identification:	Polybutene on silicon dioxide	
Supplier:		NATROCHEM, Inc. P.O. Box 1205 Savannah, GA 31402-1205 912-236-4464
Recommended use:	Rubber compounding	
Restrictions on use:	Not applicable.	
Emergency phone number:	CHEMTREC (USA)	800-424-9300
	CHEMTREC (Int'l)	202-483-7616

2: Hazard(s) identification

OSHA/HCS status:	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
GHS classification:	Not classified.

GHS label elements

Signal word:	WARNING
Symbol(s):	None.
Hazard statements:	None.
Hazards not otherwise classified:	May form combustible dust concentrations in the air.
Precautionary statements:	
Prevention:	Avoid breathing dust/fume/ gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Avoid release to the environment.
Response:	IF ON SKIN (or hair): Wash with plenty of soap and water. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing. IF exposed or concerned: Call a POISON CENTER/ doctor if you feel unwell. In case of fire: Use dry chemical, CO ₂ , water spray (fog), or foam to extinguish.
Storage:	Store in a dry place. Store in a closed container.

Disposal: Dispose of contents/container in accordance with applicable regulations.

Supplemental information: Not applicable.

3: Composition

Substance/mixture: Mixture

The inventory status and regulatory information shown here are based on CAS number 9003-29-6 for polybutene. This material may also be described by CAS number 9044-17-1.

Ingredient	Synonyms	CAS number	Concentration (%)
Polybutene		9003-29-6	70-74
Silica, amorphous, precipitated, and gel		112926-00-8	26-30

Contains no detectable crystalline silica (detection limit <0.01% by weight)

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

4: First-aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM, OR PHYSICIAN immediately; have SDS information available. Never give anything by mouth to an unconscious or convulsing person.

Description of necessary first aid measures

Eye contact: Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. The use of flush fluid other than water is not recommended. Seek immediate medical attention.

Inhalation: Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular, or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin contact: Remove contaminated clothing and shoes. Wash skin thoroughly with waterless hand cleanser. Do NOT use solvents or thinners.

Ingestion: If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting. Wash mouth out with water.

Most important symptoms/effects, acute and delayed.

Potential acute health effects

Eye contact: Slight transient irritation. Possible mechanical irritation.

Inhalation:	Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat, and lungs.
Skin contact:	Prolonged or repeated contact may dry skin and cause irritation.
Ingestion:	Ingestion may cause gastrointestinal irritation and diarrhea.

Over-exposure signs/symptoms

Eye contact:	Adverse symptoms may include the following: Irritation Redness
Inhalation:	Adverse symptoms may include the following: Coughing Respiratory tract irritation
Skin contact:	Adverse symptoms may include the following: Dryness
Ingestion:	No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician:	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments:	No specific treatment.
Protection of first-aiders:	No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

5: Fire-fighting measures

Extinguishing media

Suitable extinguishing media:	Use dry chemical, CO ₂ , water spray (fog), or foam.
Unsuitable extinguishing media:	Do not use a solid water stream as it may scatter and spread fire.
Specific hazards arising from the chemical:	Product forms a slippery surface when combined with water. Fine dust clouds may form explosive mixtures with air. Rapid depolymerization can occur in a fire and produce flammable vapours. May depolymerize at temperatures above 200 °C with the production of extremely flammable butane monomers. Vapour may cause fire. Vapours may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.
Hazardous thermal decomposition products:	In the event of a fire, hazardous decomposition products may include: Carbon monoxide Carbon dioxide Other unidentified organic compounds

Special protective actions for firefighters:	No action shall be taken involving any personal risk or without proper training. Where open-cell insulation has been contaminated with polybutene, spontaneous combustion may occur at temperatures as low as 138 °C (280 °F). Therefore, when open-cell insulation has been used, the temperature of storage tanks and heat tracing must be kept well below 120 °C (250 F) and any insulation contaminated with polybutene should be replaced immediately.
Special protective equipment for firefighters:	Firefighters and others who may be exposed to products of combustion should wear full firefighting turn out gear (full bunker gear) and self-contained breathing apparatus (SCBA) operated in pressure-demand mode (MSHA/NIOSH approved or equivalent).

6: Accidental release measures

Personal precautions, protective equipment, and emergency procedures

For non-emergency personnel:	Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Product forms slippery surface when combined with water. No action shall be taken involving any personal risk or without suitable training.
For emergency responders:	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information immediately above in "For non-emergency personnel".
Environmental precautions:	Avoid release to sewers, waterways, soil, or air. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil, or air).

Methods and materials for containment and cleaning up

Small spill:	Avoid generating dust. Vacuum or sweep up material and place in a designated, labeled waste container.
Large spill:	Avoid generating dust. Vacuum or sweep up material and place in a designated, labeled waste container.

See Section 1 for emergency contact information.

See Section 8 for information on appropriate personal protective equipment.

See Section 13 for additional waste treatment information.

7: Handling and storage

Precautions for safe handling

Protective measures:	Put on appropriate personal protective equipment (see Section 8).
Advice on general occupational hygiene:	Eating, drinking, and smoking should be prohibited in areas where this material is handled, stored, and processed. Workers should wash hands and face before eating, drinking, and smoking. Remove contaminated clothing and protective equipment before entering

eating areas. When transferring material into flammable solvents, use proper grounding to avoid electrical sparks. Avoid alteration of product properties before use. Calcining (which may result in crystalline silica formation) or mixing with additives may alter toxicological properties.

Conditions for safe storage, including any incompatibilities:

See also **Section 8** for additional information on hygiene measures. Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool, and well-ventilated area away from incompatible materials (see **Section 10**) and food and drink. Keep container tightly closed and sealed until ready for use. A potentially flammable atmosphere may be generated if material is held hot for prolonged periods. Heating systems which generate localized hot spots should never be used. Do not store in unlabeled containers.

8: Exposure controls/personal protection

Control parameters

Occupational exposure limits

None.

Recommended monitoring procedures:

If this product contains ingredients with exposure limits, personal, workplace atmosphere, or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls:

Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls:

Emissions from ventilation or work process equipment should be checked to ensure that they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters, or engineering modifications to process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures:

Wash hands, forearms, and face thoroughly after handling chemical products, before eating, smoking, and using the lavatory, and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection:	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases, or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: splash goggles.
<u>Skin protection</u>	
Hand protection:	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. When handling hot material, wear heat-resistant gloves that are able to withstand the temperature of molten product.
Body protection:	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Other skin protection:	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection:	Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

9: Physical and chemical properties

Appearance

Physical state:	Powder, solid, or granular solid.
Color:	White to off-white.
Odor:	Characteristic.
Odor threshold:	Not available.
pH:	Not available.
Melting/freezing point:	Not available.
Boiling point and range:	Not available.
Flash point:	Not available.
Evaporation rate:	Not available.
Flammability:	Not available.
Flammability or explosive limits:	Not available.
Vapor pressure:	Not available.
Vapor density:	Not available.
Relative density:	Not available.
Solubility:	Insoluble in water.
Partition coefficient: n-octanol/water:	Not available.
Auto-ignition temperature:	Not available.

Decomposition temperature: Not available.
Viscosity: Not applicable.

10: Stability and reactivity

Reactivity: No specific test data related to reactivity available for this product or its ingredients.

Chemical stability: This product is stable under recommended storage and handling conditions (see Section 7).

Possibility of hazardous reactions: May depolymerize at temperatures above 200 °C with the production of extremely flammable butane monomers.

Conditions to avoid: High temperature (>800°C) treatment (calcining), which may result in crystalline silica formation.
 Avoid alteration of product properties before use. Calcining or mixing with additives may alter toxicological properties.
 Avoid generating dust.
 Avoid extended exposure to temperatures above 60 °C in the presence of air.
 Refer to protective measures listed in **Sections 7 and 8**.

Incompatible materials: Reactive or incompatible with the following materials:
 Acids
 Oxidizing materials
 Strong alkalis
 Acidic clays at > 100 °C

Hazardous decomposition products: In the event of a fire, hazardous decomposition products may include:
 Carbon monoxide
 Carbon dioxide
 Other unidentified organic compounds

11: Toxicological information

Information on toxicological effects

Acute toxicity

Conclusion/summary: No known significant effects or critical hazards.

Ingredient	Result	Species	Dose	Exposure
Polybutene	LD ₅₀ oral	Rat	>34,600 mg/kg	-
	LD ₅₀ dermal	Rabbit	>10,250 mg/kg	-

Irritation/corrosion

Conclusion/summary

Skin: No known significant effects or critical hazards.
Eyes: No known significant effects or critical hazards.
Respiratory: No known significant effects or critical hazards.

Sensitization

Conclusion/summary:

Skin: No known significant effects or critical hazards.

Respiratory: No known significant effects or critical hazards.

Mutagenicity:

Conclusion/summary: No known significant effects or critical hazards.

Carcinogenicity

Conclusion/summary: No known significant effects or critical hazards.

Classification

Ingredient	OSHA	IARC	NTP
Silica, amorphous, precipitated, and gel	-	3	-

Carcinogen classification code:

IARC: 1, 2A, 2B, 3, 4

NTP: [Known/Reasonably anticipated] to be a human carcinogen

OSHA: +

Not listed/regulated: -

Reproductive toxicity

Conclusion/summary: No known significant effects or critical hazards.

Teratogenicity

Conclusion/summary: No known significant effects or critical hazards.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Target organs

Contains material which may cause damage to the following organs: upper respiratory tract, eyes.

Aspiration hazard

Not available.

Information on the likely routes of exposure: Routes of entry anticipated: oral, dermal, inhalation.

Potential acute health effects

Eye contact: May cause slight transient irritation. Possible mechanical irritation.

Inhalation: Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat, and lungs.

Skin contact: Prolonged or repeated contact may defat or dry skin and cause irritation.

Ingestion: Ingestion may cause gastrointestinal irritation and diarrhea.

Symptoms related to the physical, chemical, and toxicological characteristics

Eye contact: Adverse symptoms may include the following:

Irritation

Redness

Inhalation: Adverse symptoms may include the following:

Coughing

Respiratory tract irritation

Skin contact: Adverse symptoms may include the following:

Dryness

Ingestion: No specific data.

Delayed and immediate effects and also chronic effects from short- and long-term exposure

Conclusion/summary:

An epidemiological study was conducted which included 165 precipitated silica workers who had been exposed an average time of 8.6 years. Of these 165 workers, 44 had been exposed for an average of 18 years. No adverse effects were noted in complete medical examinations (including chest roentgenograms) of these workers. Pulmonary function decrements were correlated only with smoking and age but not with the degree or duration of dust exposures. Laboratory studies have also been conducted in small animals via inhalation of levels of precipitated silica dust of up to 126 mg/m³ per periods from six months to two years. Although precipitated silica was temporarily deposited in animals' lungs, most of the deposited material was cleared soon after the dust exposure ended. The results of all studies performed by, or known to, PPG indicated a very low order of pulmonary activity for synthetic precipitated silicas. PPG recommends that persons with breathing problems or lung disease should not work in dusty areas unless a physician approves and certifies their fitness to wear respiratory protection.

Short-term exposure

Potential immediate effects

No significant irritation expected other than possible mechanical irritation.

Potential delayed effects

Prolonged or repeated contact may dry skin and cause irritation.

Long-term exposure

Potential immediate effects

Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.

Potential delayed effects

Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.

Potential chronic health effects

General: No known significant effects or critical hazards.

Carcinogenicity: No known significant effects or critical hazards.

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity: No known significant effects or critical hazards.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

12: Ecological information

Toxicity

Ingredient	Result	Species	Exposure
Silica, amorphous, precipitated, and gel	NOEC > 1000 ppm	Daphnia – <i>daphnia magna</i>	24 hours
	Acute NOEC > 10000 ppm fresh water	Fish	96 hours static
	Acute NOEC > 10000 ppm	Fish – <i>brachydanio rerio</i>	4 days static
Polybutene	EC 50 > 1000 mg/L	Daphnia	48 h
	LC50 > 1000 mg/L	Fish	96 h

Conclusion/Summary (polybutene): Aquatic studies of materials with very low water solubility often refer to the amount of chemical added to the test system, not the amount dissolved in water. Most acute aquatic toxicity studies of these have used the water-accommodated fraction (WAF) obtained by mixing the test chemical in water for 20 to 24 hours, then siphoning the water for use in the test. The water-soluble fraction (WSF) is a similar approach. These materials are not expected to adversely affect microbial activity. Following a modified OECD Method 209, bacterial inhibition using activated sludge microbes was tested with several grades of this material. The tests showed no bacterial inhibition at loading of up to 25 mg/L, measured through oxygen consumption (respiration). In separate tests, the biological oxygen demand (BOD) of the microorganisms was measured. In these tests, there was no evidence of bacterial toxicity, even at loadings of about 200,000 mg/L. In addition, an epoxidized form of this material was found to be non-mutagenic and non-toxic to the microorganism used in the Ames mutagenicity assay, *Salmonella typhimurium*.

Persistence and degradability

Ingredient	Aquatic half-life	Photolysis	Biodegradability
Silica, amorphous, precipitated, and gel	-	-	Not readily
Polybutene	n/a	n/a	Unlikely to biodegrade at a significant rate

Bioaccumulative potential

Ingredient	LogPow	BCF	Potential
Silica, amorphous, precipitated, and gel	-	0	low

Mobility in soil

Soil/water partition coefficient (K_{oc}):

Not available.

Mobility:

This product is unlikely to move rapidly with surface or groundwater flows because of its low water solubility. This product is not likely to volatilize rapidly into the air because of its low vapour pressure.

Other adverse effects:

No known significant effects or critical hazards.

13: Disposal considerations

Disposal methods: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions, and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

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

Refer to Sections 6, 7, and 8 for additional information on accidental release measures, handling and storage, and exposure controls.

14: Transport information

	DOT	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.
Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.
Additional information	-	-	-

Special precautions for user: **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code: Not available.

15: Regulatory information

Inventory status

United States inventory (TSCA 8b): All components are listed or exempted.

Australia inventory (AICS): All components are listed or exempted.

Canada inventory (DSL): All components are listed or exempted.

China inventory (IECSC): All components are listed or exempted.

Europe inventory (REACH): All components are listed or exempted.

Japan inventory (ENCS): Please contact your supplier for information on the inventory status of this material.

Korea inventory (KECI): All components are listed or exempted.

New Zealand inventory (NZIoC): All components are listed or exempted.

Philippines inventory (PICCS): All components are listed or exempted.

United States

US Federal regulations:

SARA Title III

Section 302 – Extremely Hazardous Chemicals:

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

Section 311/312 – Hazard Categories:

The components in this product are either not SARA Section 311/312 regulated or are regulated but present in negligible concentrations.

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

US State regulations:

Ingredient	NJ RTK	MA RTK	PN RTK	CA Prop. 65
Silica, amorphous, precipitate, and gel	Listed	-	-	-
Polybutene	Not listed	Not listed	Not listed	Not listed

16: Other information

Hazardous Material Identification System (USA)

HEALTH	0	Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1901.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the Nation Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J.J.Keller 800-327-6868.
FLAMMABILITY	1	
REACTIVITY	0	
PERSONAL PROTECTION		

* - chronic effects

The customer is responsible for determining the PPE code for this material.

Key to abbreviations:

ATE Acute toxicity estimate
BCF Bioconcentration factor

GHS	Globally Harmonized System of classification and labeling of chemicals
IATA	International Air Transport Association
IBC	Intermediate bulk container
IMDG	International Maritime Dangerous Goods
LogPow	Logarithm of the octanol/water partition coefficient
MARPOL 73/78	International convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978. (MARPOL = marine pollution)
UN	United Nations

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