

# Safety Data Sheet

## BLUE SPARK™ PARYLENE C

Issuing Date 11/27/2017

Revision Date 12/11/2017

Version 02

### Section 1. Identification

#### Product Identifier

**Trade Name (As Labeled):** BLUE SPARK™ PARYLENE C  
BLUE SPARK™ XY-C

**Other Names:** Parylene C (UV Fluorescing)  
Parylene C Dimer (UV Fluorescing)  
Di-chloro-di-p-Xylylene (UV Fluorescing)

**Synonyms:** Dichloro-[2,2]-paracyclophane (UV Fluorescing)  
Dichlorotricyclo[8.2.2.2<sup>4,7</sup>]-hexadeca-1(12),4,6,10,13,15-hexaene, mixed isomers (UV Fluorescing)

#### Recommended use of the chemical and restrictions on use

**Recommended/Identified Product Use:** Parylene Dimer  
Parylene Coating (Intermediate)

**Use Recommended Against:** Uses outside of those indicated by the product label and/or documentation provided.

#### Details of the Supplier of the Safety Data Sheet

Plasma Ruggedized Solutions, Inc.  
2284 Ringwood Avenue, Suite A  
San Jose, CA 95131  
United States  
Ph 1 (408) 954 8405  
[www.plasmarugged.com](http://www.plasmarugged.com)

Information Department:  
Product Safety Department  
[msds@plasmarugged.com](mailto:msds@plasmarugged.com)

#### Emergency Telephone Number

North America - Chemtrec: 1-800-424-9300 (24 hours)  
International - Chemtrec: 01-703-527-3387 (24 Hours)

### 2. Hazard(s) Identification

#### Classification

OSHA HCS 2012: Under United States Regulations (29 CFR 1910.1200-Hazard Communication Standard), this product is considered hazardous.

#### Hazard Classification

Acute toxicity - Dermal	Category 4	H312	Harmful in contact with skin
Acute toxicity - Inhalation (Dusts)	Category 4	H332	Harmful if inhaled
Skin irritation	Category 2	H315	Causes skin irritation
Serious eye irritation	Category 2	H319	Causes serious eye irritation
Specific target organ toxicity (single)	Category 3	H335	May cause respiratory irritation

#### Label Elements

GHS label elements. The product is classified and labeled according to the Globally Harmonized System (GHS)

#### **Pictogram(s)**



**GHS07**  
**Signal Word: WARNING**

**Hazard Determining Component(s):**

- Di-chloro-di-p-Xylylene
- Monochloro-di-p-Xylylene
- Trichloro-di-p-Xylylene
- Optical Brightener (Proprietary)

**Hazard Statements**

- H312 Harmful in contact with skin.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H332 Harmful if inhaled.
- H335 May cause respiratory irritation.

**Precautionary Statements**

**Prevention:**

Wear protective gloves, clothing, eye protection.  
 Avoid breathing dust, fume, gas, vapors. Use only outdoors or in a well-ventilated area.  
 Wash face, hands and any exposed skin thoroughly after handling.

**Response:**

**Eyes:**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.  
 If eye irritation persists: Get medical attention.

**Skin:**

IF ON SKIN: Wash with plenty of soap and water.  
 Call a POISON CENTER or physician if you feel unwell.  
 If skin irritation occurs: Get Medical attention.  
 Take of contaminated clothing and wash before reuse.

**Inhalation:**

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
 Call a POISON CENTER or physician if you feel unwell.

**Ingestion:**

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Call a POISON CENER or physician if you feel unwell.

**Storage:**

Protect from Sunlight. Store in a well-ventilated place. Keep container tightly closed.  
 Store locked up.

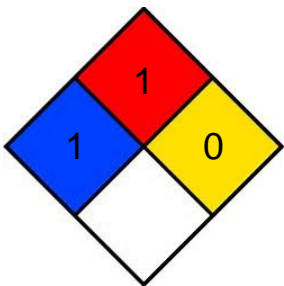
**Disposal:**

Dispose of contents and/or container to an approved waste disposal plant or recycling facility in accordance with local, state, and federal regulation

**Hazard Rating System**

**NFPA System**

NFPA Ratings (scale 0 – 4)



Health = 1  
 Flammability = 1  
 Reactivity = 0

**HMIS System**

HMIS Ratings (scale 0 – 4)



NFPA special hazards: None

**Hazards Not Otherwise Classified (HNOC)**

**OTHER INFORMATION**

**Results of PBT and vPvB assessment**

**PBT:** Not Applicable

**vPvB:** Not Applicable

### 3. Composition/Information on Ingredients

**Chemical Characterization: Mixtures**  
**Composition/Information on Ingredients**

<b>Chemical Name</b>	Dichloro-di-p-Xylylene	
<b>CAS: 28804-46-8</b>	Dichloro-Tricyclo(8.2.2.2.4,7)-hexadeca-1(12)4,6,10,12,13,15-hexaene	92.0% - 99.1%
<b>EC: 249-236-8</b>		
	Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	
<b>Chemical Name</b>	Monochloro-di-p-Xylylene	
<b>CAS 56486-91-0</b>		0.1% - 6.0%
<b>EC: Not Listed</b>		
	Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	
<b>Chemical Name</b>	Trichloro-di-p-Xylylene	
<b>CAS 29716-49-2</b>		0.1% - 5.0%
<b>EC: Not Listed</b>		
	Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	
<b>Chemical Name</b>	Optical Brightener	
<b>CAS: *Proprietary</b>	*Proprietary	0.1% - 1.5%
<b>EC: *Proprietary</b>	*Proprietary	
	Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	
<b>Other</b>	Water and other components. Each of the other components are present in less than 1% concentration (0.1% concentration for potential carcinogens, reproductive toxins, respiratory tract sensitizers, mutagens)	≤ 0.5%
	None of the other components contribute significant additional hazards at the concentrations present in this product. All pertinent hazard information has been provided in this document, per the requirements of the Federal OSHA Standards (29 CFR 1910.1200), U.S. State equivalent Standards, HMIS, GHS Standards	

**Additional Information:** If the chemical name/CAS number is proprietary and/or weight percentage is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

### 4. First-Aid Measures

**First aid measures for different exposure routes**

<b>General Advice</b>	If symptoms persist, call a physician. Do not breathe dust, fume, gas, or vapors. Do not get in eyes, on skin, or on clothing.
<b>Eye Contact</b>	Immediately and carefully flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye(s) wide open while rinsing. If symptoms persist, call a physician or seek medical attention.
<b>Skin Contact</b>	Consult a physician if necessary. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
<b>Inhalation</b>	Move to fresh air immediately, keep at rest in a comfortable position. Consult a physician. If breathing is irregular or stopped, administer artificial respiration. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Provide supportive oxygen if needed. Get medical aid.
<b>Ingestion</b>	Rinse mouth out with water. Drink plenty of water. If symptoms persist, call a physician or get medical aid. Do NOT induce vomiting.
<b>Protection of First-aiders</b>	Use personal protective equipment.

**Most important symptoms/effects, acute and delayed**

Main Symptoms:

Acute:

Ingestion: Heartburn and abdominal pain may occur.

Inhalation: Irritation of the mucous membranes of the upper airway, and coughing may occur.

Skin Contact: Redness of the skin may occur.

Eye Contact: A burning sensation and redness of the conjunctiva may occur.

Delayed:

There are no expected delayed symptoms or effects attributable to this substance.

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

**Notes to physician:** Treat symptomatically and supportively.

## 5. Fire-Fighting Measures

### Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Extinguishing Media:** Use water spray, water mist, dry chemical, carbon dioxide, chemical foam

**Unsuitable extinguishing media:** Water jet

### Specific Hazards Arising from the Chemical

May produce Carbon Monoxide, Carbon Dioxide.

### Explosion Data

**Sensitivity to Mechanical Impact:** None.

**Sensitivity to Static Discharge:** Fine dust dispersed in air, in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. While not an expected condition, measures to guard against static discharge are recommended.

### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 6. Accidental Release Measures

### Personal precautions, protective equipment and emergency procedures

#### **Personal Precautions**

Use proper personal protective equipment as indicated in section 8. Avoid contact with the skin and the eyes. Use personal protective equipment. For personal protection see section 8. Ensure adequate ventilation. If adequate ventilation is not possible, NIOSH/MSHA approved respiratory protection should be worn.

#### Environmental precautions

#### **Environmental precautions**

Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system.

### Methods and materials for containment and cleaning up

#### **Methods for containment**

Prevent further leakage or spillage if safe to do so. Cover large powder spills with plastic sheet or tarp to minimize spreading. Avoid generating or breathing/inhaling dust.

#### **Methods for Cleaning Up**

Gently sweep or suction up material and place into a suitable, properly labeled container. If necessary, spill may be wetted with a light spray of water to dampen the material to prevent dust generation. Avoid dust formation. A suitable vacuum fitted with an appropriate filter system may be utilized for small quantities provided the vacuum system is equipped to prevent generation of finely dispersed dust and the buildup of static charge which could lead to static discharge.

## 7. Handling and Storage

### Precautions for Safe Handling

#### **Advice on safe handling**

Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Remove and wash contaminated clothing before re-use. Do not breathe dust, fume, gas, or vapors. Do not eat, drink or smoke when using this product. Wash face, hands and any exposed skin after handling.

### Conditions for safe storage, including any incompatibilities

#### **Technical measures/Storage conditions**

Keep container tightly closed in a cool, dry and well-ventilated place out of sunlight. Store locked up.

#### **Incompatible Products**

None known based on information supplied.

## 8. Exposure Controls/Personal Protection

### Control Parameters

#### Exposure guidelines

Ingredients with workplace control parameters

Chemical Name	OELs					
	ACGHIH TLV		Cal/OSHA PEL		NIOSH IDLH (REL)	OTHER
	TWA	STEL	TWA	STEL		
Dichloro-di-p-Xylylene 28804-46-8 There are no specific exposure limits established for this substance. In the absence of specific limits, it is recommended that the exposure limits for "Particulates Not Otherwise Regulated" (PNOR) be used.	10 mg/m <sup>3</sup> ; (PNOR Inhalable Total Dust)  5 mg/m <sup>3</sup> ; (PNOR Respirable Fraction)	Not Established	10 mg/m <sup>3</sup> ; (PNOR Inhalable Total Dust)  5 mg/m <sup>3</sup> ; (PNOR Respirable Fraction)	Not Established	Not Established	10 mg/m <sup>3</sup> ; (PNOC/PNOR Inhalable Total Dust)  5 mg/m <sup>3</sup> ; (PNOC/PNOR Respirable Fraction)
Monochloro-di-p-Xylylene 56486-91-0 There are no specific exposure limits established for this substance. In the absence of specific limits, it is recommended that the exposure limits for "Particulates Not Otherwise Regulated" (PNOR) be used.	10 mg/m <sup>3</sup> ; (PNOR Inhalable Total Dust)  5 mg/m <sup>3</sup> ; (PNOR Respirable Fraction)	Not Established	10 mg/m <sup>3</sup> ; (PNOR Inhalable Total Dust)  5 mg/m <sup>3</sup> ; (PNOR Respirable Fraction)	Not Established	Not Established	10 mg/m <sup>3</sup> ; (PNOC/PNOR Inhalable Total Dust)  5 mg/m <sup>3</sup> ; (PNOC/PNOR Respirable Fraction)
Trichloro-di-p-Xylylene 29716-49-2 There are no specific exposure limits established for this substance. In the absence of specific limits, it is recommended that the exposure limits for "Particulates Not Otherwise Regulated" (PNOR) be used.	10 mg/m <sup>3</sup> ; (PNOR Inhalable Total Dust)  5 mg/m <sup>3</sup> ; (PNOR Respirable Fraction)	Not Established	10 mg/m <sup>3</sup> ; (PNOR Inhalable Total Dust)  5 mg/m <sup>3</sup> ; (PNOR Respirable Fraction)	Not Established	Not Established	10 mg/m <sup>3</sup> ; (PNOC/PNOR Inhalable Total Dust)  5 mg/m <sup>3</sup> ; (PNOC/PNOR Respirable Fraction)
Optical Brightener *Proprietary There are no specific exposure limits established for this substance. In the absence of specific limits, it is recommended that the exposure limits for "Particulates Not Otherwise Regulated" (PNOR) be used.	10 mg/m <sup>3</sup> ; (Inhalable Total Dust)  5 mg/m <sup>3</sup> ; (Respirable Fraction)	Not Established	15 mg/m <sup>3</sup> ; (Inhalable Total Dust)  5 mg/m <sup>3</sup> ; (Respirable Fraction)	Not Established	Not Established	10 mg/m <sup>3</sup> ; (PNOC/PNOR Inhalable Total Dust)  5 mg/m <sup>3</sup> ; (PNOC/PNOR Respirable Fraction)

### Exposure Controls

#### Engineering Measures

Showers  
 Eyewash stations  
 Ventilation systems. Apply technical measures to comply with the occupational exposure limits. Process enclosure and/or ventilation systems.

### Individual protection measures, such as personal protective equipment

#### Eye/Face Protection

Tightly fitting safety goggles.

#### Skin and Body Protection

Skin and Body Protection. Wear protective gloves and protective clothing. Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

#### Respiratory Protection

If exposure limits are exceeded, expected to be exceeded, or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn.

#### Hygiene Measures

Remove and wash contaminated clothing before re-use. Do not eat, drink or smoke when using this product. Regular cleaning of equipment, work area and clothing is recommended. Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and Chemical Properties

### Physical and Chemical Properties

Physical State	Powder/Granules
Appearance	White/off white
Odor	None
odor threshold	No information available

<u>Property</u>	<u>VALUES</u>
pH	~6.89
Melting point	166°C - 175°C
Boiling point/boiling range	~291°C - 295°C
Flash Point	No information available
Evaporation Rate VALUE	Not applicable
Flammability (solid, gas)	TBD
Flammability Limits in Air	
Upper Flammability Limit	Not applicable
Lower Flammability Limit	Not applicable
Vapor pressure	0.001 Pa @ 25°C
Vapor Density	No information available
Specific gravity	No information available
Solubility	
Water	~1.41 mg/L @ 20°C and pH 5-9
Partition coefficient: n-octanol/water	Not applicable
Autoignition Temperature	No information available
Decomposition temperature	>300°C
Kinematic viscosity	No information available
Dynamic viscosity	No information available
Explosive Properties	Not applicable
Oxidizing properties	Not applicable

### OTHER INFORMATION

Softening point	Not applicable
Molecular Weight	No information available
VOC Content (%)	0.00%
Density	No information available

## 10. Stability and Reactivity

### Reactivity

This product is not considered reactive under normal conditions of use and storage.

### Chemical Stability

This product is stable under recommended storage, use, and handling conditions.

### Hazardous Reactions

None under normal storage, use and handling conditions.

### Conditions to Avoid

Extremes of temperature and direct sunlight.

### Incompatible Materials

Strong oxidizing agents, strong acids, strong bases.

### Hazardous Decomposition Products

Thermal decomposition or burning may result in emission of toxic fumes under certain conditions. Carbon Monoxide, Carbon Dioxide, and Hydrogen Chloride may be emitted as byproducts of fire.

## 11. Toxicological Information

### Information on Likely Routes of Exposure

#### Product information

<b>INHALATION</b>	May be irritating to the lungs. Avoid breathing dust, fume, gas, vapors.
<b>Eye Contact</b>	Irritating to eyes.
<b>Skin Contact</b>	Irritating to skin.
<b>Ingestion</b>	Not an expected route of exposure. Do NOT taste or swallow.

### Information on Toxicological Effects

#### Symptoms

<b>Skin Corrosion/Irritation</b>	Irritating to skin. May cause redness or contact dermatitis of the affected area.
<b>Eye damage/Irritation</b>	Irritating to eyes. Risk of serious damage to eyes.
<b>Irritation</b>	Irritating to eyes. Irritating to skin. May be irritating to the lungs.
<b>Sensitization</b>	No evidence available to suggest sensitization will occur.
<b>Germ cell mutagenicity</b>	Not a suspected mutagen. Insufficient information available, limited data suggests a negative result.
<b>Carcinogenicity</b>	Not a suspected carcinogen. Insufficient information available, limited data suggests a negative result.
<b>Reproductive Toxicity</b>	Not a suspected reproductive toxin. Insufficient information available, limited data suggests a negative result.
<b>Specific target organ systemic toxicity (single exposure)</b>	May be harmful to the lungs. Suspected STOT Category 3. Insufficient information available.
<b>Specific target organ systemic toxicity (repeated exposure)</b>	

<b>Aspiration Hazard</b>	No information available.
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### Numerical Measures of Toxicity - Product information

The following values are calculated based on the applicable standards of the GHS document.

<b>ATEmix (oral)</b>	6425 mg/kg
<b>ATEmix (dermal)</b>	1580 mg/kg
<b>ATEmix (inhalation-dust)</b>	2.2 mg/l

## 12. Ecological Information

### Ecotoxicity

100% of the mixture consists of components(s) of unknown hazards to the aquatic environment. Limited data suggests the product is low risk.

### Persistence and Degradability

No information available.

### Bioaccumulation

100% of the mixture consists of components(s) of unknown hazards. Limited data suggests the product is not a risk for bioaccumulation.

<b><u>Other Adverse Effects</u></b>	No information available
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## 13. Disposal Considerations

### Waste treatment

<b>Waste Disposal Methods</b>	Should not be released into the environment. Dispose of in accordance with local, state, and federal regulations. This material, as supplied, is not a hazardous waste according to state and federal regulations (40 CFR 261).
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<b>Contaminated Packaging</b>	Do not re-use empty containers. Dispose of to an approved waste facility, or recycle in accordance with local, state, and federal regulations.
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## 14. TRANSPORT INFORMATION

<u>DOT/49CFR</u> Description	NOT REGULATED
<u>MEX(SCT)</u> Description	NOT REGULATED
<u>IATA/ICOA</u> Description	NOT REGULATED
<u>IMDG/IMO</u> Description	NOT REGULATED
<u>RID</u> Description	NOT REGULATED
<u>ADN</u> Description	NOT REGULATED

## 15. Regulatory Information

### International Inventories

TSCA	All Ingredients are Listed
EINECS/ELINCS	All Ingredients are Listed
DSL	Some Ingredients are Listed
NDSL	Some Ingredients are Listed
PICCS	Some Ingredients are Listed
ENCS	All Ingredients are Listed
IECSC	Some Ingredients are Listed
AICS	Some Ingredients are Listed
KECL	All Ingredients are Listed
NZIoC	Some Ingredients are Listed

### Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory  
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances  
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List  
PICCS - Philippines Inventory of Chemicals and Chemical Substances  
ENCS - Japan Existing and New Chemical Substances  
IECSC - China Inventory of Existing Chemical Substances  
AICS - Australian Inventory of Chemical Substances  
KECL - Korean Existing and Evaluated Chemical Substances  
NZIoC - New Zealand Inventory of Chemicals  
APCISS - Asia-Pacific Chemical Inventory Search System

**REACH registration number** Plasma Ruggedized Solutions has taken all relative steps to ensure REACH-Compliance. Please contact us with any REACH-Related questions at Product Safety Department  
Email: msds@plasmarugged.com

**RESTRICTIONS - REACH TITLE VIII** No information available

### US Federal Regulations

#### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

#### SARA 311/312 Hazard Categories

Acute health hazard	YES.
Chronic health hazard	NO.
Fire hazard	NO.
Sudden Release of Pressure Hazard	NO.
Reactive Hazard	NO.

#### Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

#### CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may



be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

**US State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals

**U.S. State Right-to-Know Regulations**

This product does not contain any substances regulated by state right-to-know regulations

**International Regulations**

**Mexico - Grade**                                      Slight risk, Grade 1.

**CANADA**

**WHMIS Note**

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

**WHMIS Hazard Class**

D2B Toxic materials



**HMIS                      HEALTH 1                      FLAMMABILITY 1                      PHYSICAL HAZARD 0                      PERSONAL PROTECTION H**

**16. Other Information**

**Revision Date**                                      12/11/2017  
**Revision note**                                      Added additional detail, revised data  
**Restrictions on use**                                      No information available.  
**Contact Information Website**                                      [www.plasmarugged.com](http://www.plasmarugged.com)

**Disclaimer**

The information provided on this MSDS 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text

**End of Material Safety Data Sheet**