

## PureAffin® Blue

### 1. Identification

**Product Name:** PureAffin® e BLUE

**Item #:** EEPAR2

**Synonyms:** N/A

**Recommended Use:** Infiltration, Embedding

**Restrictions on Use:** N/A

**Manufacturer:**

Cancer Diagnostics, Inc.  
4300 Emperor Blvd. #400  
Durham, NC 27703  
1-877-846-5393

**In Case of Emergency:**

Chemtrec US 1-800-424-9300

### 2. Hazards Identification

**OSHA Hazard Classification(s):**

This material is not hazardous according to regulatory guidelines (see (M)SDS Section 15).

**Signal Word:** N/A

**Hazard Statement(s):** N/A

**Pictogram(s):** N/A

**Precautionary Statement(s):** Prevention: N/A

Response: N/A

Storage: N/A

Disposal: N/A

**Descriptions of Hazards not otherwise classified:** None as defined under 29 CFR 1910.1200.

**Percent of mixture with unknown acute toxicity:** N/A

**Route of Entry:** Inhalation, Skin

**Carcinogenic status:** Not considered carcinogenic by NTP, IARC and OSHA

Target Organs: N/A

**Health Effect:**

Skin: Contact with molten material may cause thermal burns.

Inhalation: High-pressure injection under skin may cause serious damage. When heated, the vapors/fumes given off may cause respiratory tract irritation.

*NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.*

### 3. Composition and Information on Ingredients

| Chemical Name | Common Name | CAS #     | Concentration % |
|---------------|-------------|-----------|-----------------|
| Paraffin      |             | 8002-74-2 | Trade Secret    |

This material is defined as a complex substance.

**No Hazardous Substance(s) or Complex Substance(s) required for disclosure.**

### 4. First Aid Measures

**Eye Contact:** Flush thoroughly with water for at least 15 minutes. Seek medical attention

**Skin Contact:** Wash contact areas with soap and water. If burned by contact with hot material, molten material adhering to skin should be cooled as quickly as possible with water, and see a physician for removal of adhering material and treatment of burn. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

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**Inhalation:** Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

**Ingestion:** Product is non-toxic. First aid is normally not required. Seek medical attention if discomfort occurs.

**Recommendations for immediate medical care/special treatment:** N/A

### 5. Fire- Fighting Measures

**Extinguishing Media:** Dry chemical, CO<sub>2</sub>, foam or water fog. Treat as an oil fire, do not use straight streams of water

**Unusual Fire and Explosion Hazards:** N/A

**Special Protective Equipment:** Wear full protective clothing and self-contained breathing apparatus.

**Precautions for Firefighters:** Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

**Hazardous Combustion Products:** Oxides of carbon, Wax fumes, Smoke, Fume, Aldehydes, Incomplete combustion products.

#### **FLAMMABILITY PROPERTIES**

**Flash Point [Method]:** 204°C (399°F) [ASTM D-92]

**Flammable Limits (Approximate volume % in air):** LEL: N/D UEL: N/D

**Autoignition Temperature:** N/D

### 6. Accidental Release Measures

**Notification Procedures:** In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

**Protective Measures:** Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders. For emergency responders: Respiratory protection: half-face or full-face respirator with combined dust/organic vapor filter(s) or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that provide chemical resistance and, when necessary, heat-resistance and/or thermal insulation are recommended. Note: gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic and, if necessary, heat resistant and thermal insulated material is recommended.

#### **SPILL MANAGEMENT**

**Land Spill:** Allow spilled material to solidify and scrape up with shovels into a suitable container for recycle or disposal.

**Water Spill:** Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Skim from surface.

*Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.*

#### **Environmental Precautions:**

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

### 7. Handling and Storage

**Handling:** Material can accumulate static charges which may cause an electrical spark (ignition source). When heated, the vapors/fumes given off may cause respiratory tract irritation. Prevent small spills and leakage to avoid slip hazard. In liquid state, material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003

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(Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

**Static Accumulator:** This material in the liquid state is a static accumulator

**Storage:** The container choice, for example storage vessel, may effect static accumulation and dissipation. Do not store in open or unlabelled containers.

**Storage Temperature:** < 72°C (162°F)

### 8. Exposure Controls/Personal Protection

#### OSHA Permissible Exposure Limits (PELs):

| Reagent   | CAS #     | OSHA PEL TWA                       |
|-----------|-----------|------------------------------------|
| Wax Fumes | 8002-74-2 | (Vacated) TWA: 2 mg/m <sup>3</sup> |

#### ACGIH Threshold Limit Values (TLVs):

| Reagent   | CAS #     | ACGIH PEL TLV            | ACGIH STEL |
|-----------|-----------|--------------------------|------------|
| Wax Fumes | 8002-74-2 | TWA: 2 mg/m <sup>3</sup> | N/A        |

*NOTE: Limits/standards shown for guidance only. Follow applicable regulations.*

**Engineering Controls:** The level of protection and types of controls necessary will vary depending upon potential exposure conditions.

**Control measures to consider:** Adequate ventilation should be provided so that exposure limits are not exceeded.

**Personal Protective Measures and Special PPE Requirements:** Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

**Respiratory protection:** If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable.

**Types of respirators to be considered for this material include:** No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

**Hand protection:** Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves.

**Types of gloves to be considered for this material include:** If product is hot, thermally protective, chemical resistant gloves are recommended. If contact with forearms is likely, wear gauntlet style gloves.

**Eye protection:** If contact with material may occur, safety glasses and face shield are recommended.

**Body protection:** Any specific clothing information provided is based on published literature or manufacturer data.

**The types of clothing to be considered for this material include:** If product is hot, thermally protective, chemical resistant apron and long sleeves are recommended.

**Specific Hygiene Measures:** Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

**Biological Limits:** No biological limits allocated.

**Environmental Controls:** Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

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**9. Physical and Chemical Properties Section**
**Physical State:** Solid

**Color:** Colorless

**Odor:** Mild

**Odor Threshold:** N/D

**Relative Density (at 15 °C):** 0.84

**Flammability (Solid, Gas):** N/A

**Flash Point [Method]:** 204°C (399°F) [ASTM D-92]

**Flammable Limits (Approximate volume % in air):** LEL: N/D UEL: N/D

**Autoignition Temperature:** N/D

**Boiling Point / Range:** > 316°C (601°F)

**Decomposition Temperature:** N/D

**Vapor Density (Air = 1):** N/D

**Vapor Pressure:** < 0.013 kPa (0.1 mm Hg) at 20 °C

**Evaporation Rate (n-butyl acetate = 1):** N/D

**pH:** N/A

**Log Pow (n-Octanol/Water Partition Coefficient):** > 6

**Solubility in Water:** Negligible

**Viscosity:** [N/A at 40 °C] | 3.7 cSt (3.7 mm<sup>2</sup>/sec) at 100°C

**Oxidizing Properties:** See Hazards Identification Section.

**Freezing Point:** N/D

**Melting Point:** 56°C (133°F)

*Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.*

**10. Stability and Reactivity**
**Reactivity:**
**Chemical Stability:** Stable under normal conditions.

**Conditions of Stability/Instability:** N/A

**Stabilizers needed:** None

**Safety issue indicated by appearance change:** N/A

**Other:** N/A

**Hazardous Reactions:** N/A

**Hazardous Polymerization:** Does not occur

**Conditions to avoid:** Avoid heating above 300 F to prevent build-up of fumes.

**Classes of Incompatible Materials:** Strong Oxidizing Agents

**Hazardous Decomposition Products:** Material does not decompose at ambient temperatures.

**11. Toxicological Information**

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| Hazard Class                                    | Conclusion / Remarks  |
|---|---|
| <b>Inhalation</b>                               |   |
| Acute Toxicity: No end point data for material. | Not determined.   |
| Irritation: No end point data for material.     | Elevated temperatures or mechanical action may form vapors, mist, or fumes which may be irritating to the eyes, nose, throat, or lungs. |

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| Hazard Class   | Conclusion / Remarks   |
|--|--|
| <b>Ingestion</b>   |  |
| Acute Toxicity (Rat): LD50 > 5000 mg/kg                    | Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 401 420  |
| <b>Skin</b>  |  |
| Acute Toxicity (Rabbit): LD50 > 2000 mg/kg                 | Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 402  |
| Skin Corrosion/Irritation (Rabbit): Data available.        | Negligible irritation to skin at ambient temperatures. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 404                          |
| <b>Eye</b>   |  |
| Serious Eye Damage/Irritation (Rabbit): Data               | May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 405                               |
| <b>Sensitization</b>                                       |  |
| Respiratory Sensitization: No end point data for material. | Not expected to be a respiratory sensitizer.   |
| Skin Sensitization: Data available.                        | Not expected to be a skin sensitizer. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 406   |
| <b>Aspiration:</b> Data available.                         | Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.   |
| <b>Germ Cell Mutagenicity:</b> Data available.             | Not expected to be a germ cell mutagen. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 471 473 474 476                             |
| <b>Carcinogenicity:</b> Data available.                    | Not expected to cause cancer. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 453   |
| <b>Reproductive Toxicity:</b> Data available.              | Not expected to be a reproductive toxicant. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 414 421                                 |
| <b>Lactation:</b> No end point data for material.          | Not expected to cause harm to breast-fed children.   |
| <b>Specific Target Organ Toxicity (STOT)</b>               |  |
| Single Exposure: No end point data for material.           | Not expected to cause organ damage from a single exposure.   |
| Repeated Exposure: Data available.                         | Not expected to cause organ damage from prolonged or repeated exposure. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 408 410 411 |

**Other Information:**

**Petroleum wax:** Not carcinogenic in lifetime animal skin painting or oral feeding studies. Did not cause mutations in vitro.

High oral doses in one rat strain (F-344) resulted in microscopic inflammatory changes (microgranulomas) in liver, spleen, and lymph nodes, some increased organ weights, inflammation of the cardiac mitral valve, and accumulation of saturated mineral hydrocarbons in certain tissues. Non-sensitizing in animal tests and human subjects.

The following ingredients are cited on the lists below: None.

- 1 = NTP CARC
- 2 = IARC 1
- 3 = IARC 2B
- 4 = NTP SUS
- 5 = IARC 2A
- 6 = OSHA CARC

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**12. Ecological Information**

**Ecotoxicity:** Material -- Not expected to be harmful to aquatic organisms.

**Mobility:** Hydrocarbon component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

**Persistence and Degradability**

Biodegradation: Hydrocarbon component -- Expected to be inherently biodegradable

**Bioaccumulation Potential:** Hydrocarbon component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

*The information given is based on data available for the material, the components of the material, and similar materials.*

**13. Disposal Considerations**

**Recommended Disposal:** Suitable routes of disposal are supervised incineration, preferentially with energy recovery, or appropriate recycling methods in accordance with applicable regulations and material characteristics at the time of disposal.

**Regulatory Disposal Information:** RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrosivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

**Empty Container Warning (where applicable):** Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. **DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.**

**14. Transport Information**

|   |  |
|---|--|
| <b>14.1 UN Number<br/>DOT, IATA,IMDG, ADR</b>               | <b>DOT:</b> Not Regulated for Transport by DOT.<br><b>ADR/RID:</b> Not Regulated for Transport by ADR/RID.<br><b>IMDG:</b> Not Regulated for Transport by IMDG.<br><b>IATA:</b> Not Regulated for Transport by IATA. |
| <b>14.2 UN Proper Shipping Name<br/>DOT, IATA,IMDG, ADR</b> | <b>ADR/RID:</b> Not Regulated for Transport by ADR/RID.<br><b>IMDG:</b> Not Regulated for Transport by IMDG.<br><b>IATA:</b> Not Regulated for Transport by IATA.<br><b>DOT:</b> Not Regulated for Transport by DOT. |
| <b>14.3 Transport Hazard Class(es)</b>                      | <b>DOT:</b> Not Regulated for Transport by DOT.<br><b>IATA:</b> Not Regulated for Transport by IATA.<br><b>IMDG:</b> Not Regulated for Transport by IMDG.<br><b>ADR/RID:</b> Not Regulated for Transport by ADR/RID. |
| <b>14.4 Packing Group<br/>DOT, IATA,IMDG, ADR</b>           | <b>ADR/RID:</b> Not Regulated for Transport by ADR/RID.<br><b>IMDG:</b> Not Regulated for Transport by IMDG.<br><b>IATA:</b> Not Regulated for Transport by IATA.<br><b>DOT:</b> Not Regulated for Transport by DOT. |
| <b>14.5 Environmental Hazards</b>                           | <b>Marine Pollutant:</b> No  |
| <b>14.6 Special Precautions for User</b>                    | Not applicable.  |

**15. Regulatory Information**

**OSHA Hazard Communication Standard:** This material is not considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.

**Listed or exempt from listing/notification on the following chemical inventories:** AICS, DSL, ENCS, IECSC, KECI, PICCS, TSCA

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**EPCRA Section 302:** This material contains no extremely hazardous substances.

**SARA (311/312) REPORTABLE HAZARD CATEGORIES:** None.

**SARA (313) TOXIC RELEASE INVENTORY:** This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below: None.

- 1 = ACGIH ALL
- 2 = TSCA 5a2
- 3 = CA P65 REPRO
- 4 = MN RTK
- 5 = ACGIH A1
- 6 = TSCA 5e
- 7 = CA RTK
- 8 = NJ RTK
- 9 = ACGIH A2
- 10 = TSCA 6
- 11 = IL RTK
- 12 = PA RTK
- 13 = OSHA Z
- 14 = TSCA 12b
- 15 = LA RTK
- 16 = RI RTK
- 17 = TSCA 4
- 18 = CA P65 CARC
- 19 = MI 293

Code key: CARC=Carcinogen; REPRO=Reproductive

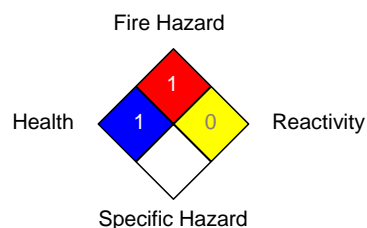
**16. Other Information**

**Revision Date:** 11/15/2017

**NFPA**

|                 |   |
|-----------------|---|
| Health          | 1 |
| Fire Hazard     | 1 |
| Reactivity      | 0 |
| Specific Hazard |   |

National Fire Protection Association (USA) NFPA


**HMIS**

|                     |   |
|---------------------|---|
| Health              | 1 |
| Flammability        | 1 |
| Physical Hazard     | 0 |
| Personal Protection |   |

Hazardous Material Information System HMIS

|                     |   |
|---------------------|---|
| Health              | 1 |
| Flammability        | 1 |
| Physical Hazard     | 0 |
| Personal Protection |   |

N/D = Not determined, N/A = Not applicable

**Notice to Reader:**

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.